

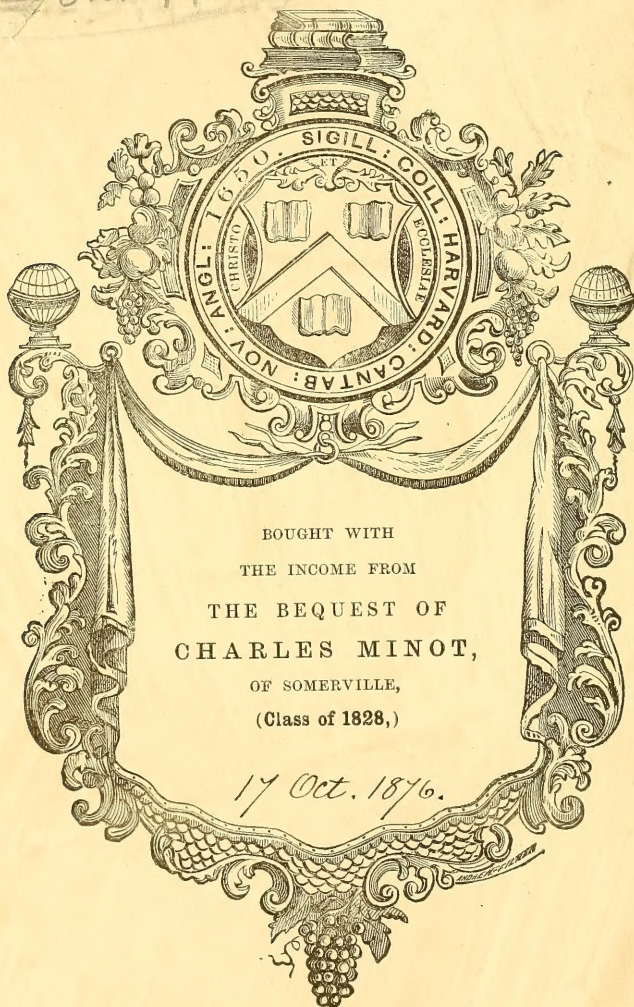


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MARSH WARBLER.

A HISTORY
OF THE
BIRDS OF EUROPE,

NOT OBSERVED IN THE BRITISH ISLES.

BY
CHARLES ROBERT BREE, M.D., F.Z.S.,

Senior Physician to the Essex and Colchester Hospital.

Author of "Species Not Transmutable," "Lower Forms of Life," "An Exposition of Fallacies in the Hypothesis of Mr. Darwin," &c., &c.

SECOND EDITION, ENLARGED.

VOL. III.

"Join voices all ye living souls; ye birds
That singing up to heaven-gate ascend
Bear on your wings and in your notes His praise."
MILTON'S PARADISE LOST.

2
LONDON:

GEORGE BELL AND SONS, YORK STREET, COVENT GARDEN.

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1876, Oct. 17.

~~Revised, 1876, Oct. 17, 1876.~~

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Pages 5, 6, 7, et seq., for “Hastings,” read “Harting.”

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BIRDS OF EUROPE,

NOT OBSERVED IN THE BRITISH ISLES.

INSECTIVORÆ.

Family SYLVIIDÆ.

Genus ACROCEPHALUS. (*Naumann.*)

Generic Characters.—Bill more or less straight, with the upper mandible elevated, wider at the base, compressed towards the tip, and slightly emarginated; edges of lower mandible inflected. Nostrils basal, oblique, oval, and exposed. First primary obsolete, second generally shorter than the third, which is usually the longest. Tail rounded and rather long. Legs long; feet ample—hind toe strong; claws long and moderately curved.

MARSH WARBLER.

Acrocephalus palustris.

<i>Sylvia palustris,</i>	BECHSTEIN; Nat. Deut., 1801.
“ “	MEYER AND WOLFF; Tach. der Deuts., 1810.
“ “	NAUMANN; Natur. der Vogel Deut.
“ “	TEMMINCK; Man., 1820.
“ “	VIEILLOT; Faun. Fran.
“ “	SCHINZ; Europ. Faun., 1840.
“ “	MÜHLE; 1856.
“ “	BREE; 1st. Edition.
“ <i>stripera,</i>	VIEILLOT; Dict., 1817, tome xi., p. 182.?
<i>Calamoherpe palustris,</i>	BOIE; Isis, 1826, p. 972.
“ “	BONAPARTE; Birds, 1838.
“ “	Z. GERBE; Dict., 1848.
“ “	DEGLAND; 1849.

<i>Salicaria palustris</i> ,	KEYSERLING AND BLASIUS; Die Wirbelt, 1840.
“ “	SCHLEGEL; Revue, 1844.
<i>Riverain Verderolle</i> ,	OF THE FRENCH.
<i>Sumpf-Rohrsänger</i> ,	OF THE GERMANS.

Specific Characters.—Upper parts of the plumage shaded with greenish or olive grey; a white streak over the eyes, and the under parts of the body also white, with an ochreous tint. Tail coverts yellowish, edged with olive grey; both the outer tail quills pale whitish at the end; the longest wing primary longer than the longest secondary. Length of an adult male sent me by M. E. Verreaux, five inches and a half; carpus to tip two inches and a quarter; tail two inches and a quarter; tarsus nine tenths of an inch.

WE have now arrived at the interesting and large group of Reed Warblers. The Sedge and Reed Warblers of our own island are so well known that it is hardly necessary to say anything about the habits of the family, which are very similar in all the species. They may, however, be distinguished by the following characters. The forehead is narrow and flat, the feet are strong, and the claws long and slender; wings short, and the tail round or cuneiform. The distinctions of sex are not strongly marked, and there is generally a bright whitish or cream-coloured stripe extending over the eyes. The young moult in the spring for the first time. They are found principally in northern climates, and generally near water or marshes, and are not found among high trees, or in mountainous districts. They arrive late and migrate early, and there is a great similarity in their song. They are insectivorous, and build in reeds or bushes, having always a stalk or branch passing through the nest, which is so formed and fixed, that although swayed about by the wind so as nearly to touch the water, the eggs do not fall out.

The Marsh Warbler, the first which I am called upon to notice, is very similar in external form and colour to our Reed Warbler, but differs considerably from it in its song and nidification. It has a wide range in Europe, being found in Russia, Germany, Holland, Belgium, Switzerland, Italy, and France. It does not seem to go farther north than Denmark. Count Mühle states that it occurs in the whole of North and South Africa, and in the south-west of Asia. I cannot, however, find it in either Hodgson's Catalogue, or that of Dr. A. Leith Adams, of the birds of India, published in the "Zoological Transactions" for November, 1858, and May, 1859—two exceedingly interesting and valuable contributions to Indian ornithology; neither

is it in Mr. Salvin's list of the "Birds of the Eastern Atlas of Africa," nor in Captain Loche's "Catalogue of the Birds of Algeria;" but there is no doubt it may have been confounded in the above lists with *Sylvia arundinacea*.

In Europe it is found, according to Temminck, plentifully on the banks of the Po and the Danube; and Degland records its appearance in the department of Nord. A male was killed in 1843, in the neighbourhood of Bergnes, and subsequently every year others at the same place. M. Baillon has procured it from Abbeville, and M. Gerbe plentifully from the Basses Alps. It is generally distributed in Germany, appearing in May, and leaving again in September. It is found, not in thick reed and sedge clumps, but chiefly on the banks of rivers, where the brushwood is low and mixed with reeds, high grass, sedges, etc., closely grown together.

Salvadori, "Fauna d'Italia," writes thus of this bird:—"The slightly olive-grey colour of the upper parts of this species distinguishes it easily from *A. arundinacea*, in which they are reddish olive very pronounced. Besides in *A. palustris* the beak is longer and more depressed, like that of *S. elaeica*—from which, perhaps, it may be made the type of a distinct genus."

Bonaparte, "Fauna Italica," writes:—"It is found in the plains of Northern Italy, along the river Po, from spring till quite the end of autumn. It does not live exclusively about the deserted marshes and uncultivated plains like its congeners, or in plantations like the true *Sylvie*, but it delights rather in cultivated and irrigated places, and in fields of hempseed on the shores of the rivers. Though it flies about the reeds, it never alights upon them, but upon low and thick bushes, upon willows, and plants of *Urticæ dioica*.

"Agile and vivaceous, it is continually jumping between the boughs, and flying from one bush to another. In May and June the male sings day and night, in a soft voice very much like that of *Sylvia hypolais*, and with a song sufficiently varying, during the intervals of which it utters a sort of croak which reminds one of the tones of the *Calamohерpe*. It feeds on insects, but takes more readily than other birds (especially in the beginning of autumn) the berries of the elder and privet.

"It constructs its nest in the same humid places in which it ordinarily lives, in the middle of the bushes, or in elevated herbaceous plants; not, however, over water, or among the reeds. It resembles in form the nest of *arundinacea*. On the outside it is interlaced with tufts of grass and dry leaves. Internally it is lined with horse hair and bents. The eggs are from four to six, a little more elongated

than those of *A. arundinacea*, whitish, lightly tinted with greenish turquoise, and scattered over with olive ash-coloured spots and cloudy lines and points."

This bird is sometimes met with in Piedmont, and has been observed in Lombardy (Bettoni), in Venetia (Prini), in the Tyrol, in Modena (Doderlein), in Liguria (Calvi and Durazzo), but it is rather rare everywhere. Malherbe records three having been taken in Sicily, but, as it appears, without foundation. L'Hausmann says it is a bird of passage in Sardinia, and rare.

Doderlein says of this species, "That it differs from *arundinacea* by having the beak more depressed, by its brown mantle—olive or greenish brown—going into ash-colour, as well as by its less aquatic habits, and by the manner in which it constructs its own nest, which is sometimes met with in Modena. According to the observations of naturalists, it for the most part frequents damp meadows overflowed with rivulets, as well as marshy ground like *arundinacea*. It arrives in spring, and, as justly remarked by Savi and Schinz, it makes its nest at the foot of willows and in the grass in the meadows, not upon the stems of rushes like *arundinacea*. It goes away again in September. It is doubtful if it exist in Sicily. Benoit denies it.—(Malherbe.)"

The following is from Count Mühle's description of its habits:—"The Marsh Warbler is a very neat merry bird. Quick in all its movements, it is equally active in skipping through the bushes as in flight. Bold and enterprising, it becomes also arrogant and tyrannical in its combats with other birds dwelling around it. It seems never to repose, and hardly does the eye catch it than its voice is heard perhaps a hundred paces farther off. Of all the Reed Warblers it has the most beautiful and varied song, enlivening an otherwise dull and monotonous part of the country. It is a master in imitation, and knows quite well how to blend in a delightful whole the different songs of the surrounding birds. In warm summer it sings all night through, and so charmingly in the stillness of the time and scene, that we are tempted to compare it with the Nightingale. Its call-note is not often heard, but is similar to that of other Reed Warblers. Its nest is never placed over water, nor even over marshy ground; it is found in shrubs and bushes from one to three feet above the ground: the inside is deep, like that of other Reed Warblers' nests, and formed of delicate grass blades, straws, nettle fibres, and spiders' webs. It is lined with very fine straw and a tolerable quantity of horse-hair. It lays four or five eggs, which are bluish white, sparingly spotted with delicate grey dots, and olive brown and ash grey spots."

Brehm, in Bädcker's work upon European eggs, says of this bird:—"It builds in bushes in meadows and on the banks of ditches, rivers, ponds, and lakes. The nest is made of dry grass and straws, with panicles, and interwoven with strips of inner bark and horse-hair outside. The rim is only very slightly drawn in. It has a loose sub-structure, and is by this and its half-globular form, suspended on dry ground between the branches of the bushes or nettles, easily distinguished from the strongly-formed nest of *S. arundinacea*, which is moreover built over water. It lays five or six eggs the beginning of June, which have a bluish white ground, with pale violet and clear brown spots in the texture of the shell, and delicate dark brown spots on the surface, mingled with which are a number of black dots. The ground colour also in many fresh eggs is green, but clear and very different from the muddy tint of the egg of the Reed Warbler. The female sits daily for some hours, but the male takes his turn. Incubation lasts thirteen days."

I have been thus particular in quoting the habits and nidification of this bird, as they are the principal means by which the species, though undoubted, is distinguished from the Reed Warbler. Its powers of imitation are indeed remarkable. M. l'Abbe Caire writes to M. Gerbe:—"This species sings most admirably, imitating with exactitude the notes of the Goldfinch, the Chaffinch, and the Blackbird, as well as all the other birds which frequent its neighbourhood. Its song is richer in variation than that of the Nightingale, and it can be listened to from morning to night."

I think it very probable that this bird is an inhabitant of Great Britain, though hitherto confounded with the Reed Warbler. I think I have myself taken the nest; and Mr. Sweet's bird, mentioned by Mr. Yarrell, was probably this species.

Mr. Hastings, in his "Handbook of British Birds," and in an elaborate article in the "Field," May 6th., 1871, has given his reasons for introducing this bird into the British fauna, and also for believing it to be quite distinct from our well-known Reed Warbler, *S. arundinacea*, or as it is now termed by some, *Acrocephalus streperus*. Professor Newton, however, does not consider Mr. Hastings' argument conclusive, and has therefore declined to introduce *A. palustris* into the edition of Yarrell's British Birds which he is now editing. To avoid repetition I will simply quote his remarks:—

"The Marsh Warbler, *Acrocephalus palustris*, (Bechstein,) is said to have occurred several times in England, (Mr. Hastings, in his new and useful 'Handbook of British Birds,' p. 104 refers to six such instances,) and some of the examples on which the statements rest

have been kindly submitted by their owners, Mr. Bond, Mr. Hastings, and Mr. Sharpe, to the editor. It is confessedly hard to distinguish between prepared specimens of two species so much alike as *A. streperus* and *A. palustris*, and it is with some diffidence that after a careful examination he has come to the conclusion it is at present premature to admit the latter as a British bird. In thus resolving he however throws no doubt on these examples having been obtained in this country; but what does seem uncertain, after a diligent investigation of the alleged distinctive characters of each species put forth by various writers, is whether these two species, except in life and shortly after death, can be surely distinguished, and consequently whether the slight peculiarities of the British specimens attributed to *A. palustris* prove that they have been rightly so assigned.

“Mr. Hastings, who has taken great pains with the question, and is satisfied that *A. palustris* not only occurs in England, but is probably an annual summer migrant to our shores, has obliged the editor with the following remarks on a comparison of the two species:— ‘Although the colour of the upper portion of the plumage in both is an uniform olive brown, *A. palustris* is yellower. It is a somewhat longer bird, with a shorter and browner bill; a buffy white line, extending from the base of the bill over the eye, is clearly defined. [Professor Newton’s figure of *A. streperus* has no eye stripe at all.—C. R. B.] In *A. streperus* this line is so faint as to be scarcely discernible. [Gould gives a very decided marking.—C. R. B.] In *A. palustris* the second primary is equal in length to the fourth, while in *A. streperus* it is equal to the fifth. It is doubtful whether this can be invariably relied upon, for the length of feathers even in the same species will sometimes vary considerably through age, moult, or accident. The tail in *A. palustris* is less rounded than in *A. streperus*, the outer feather in the former being not so short as in the latter.

“The measurements of the two species, taken from skins, are as follows:

	Length.	Bill.	Wing, from carpus.	Tarsus
<i>A. streperus</i>	5.3	0.55	2.7	0.8
<i>A. palustris</i>	5.5	0.5	2.5	0.9

The readiest means of distinguishing the two birds at a glance is by the colour of the legs and toes. In living or freshly-killed specimens it will be observed that the tarsi and feet of *A. streperus* are of a slaty brown, while in *A. palustris* the same parts are flesh-colour. In dried skins the former turns to hair brown, the latter to yellowish

brown. The tarsus of *A. palustris*, moreover, is rather longer and stouter than that of its congener.'

"It must be remarked that other writers give a somewhat different account of the outward distinctions of the two birds, and the colour of the legs, upon which Mr. Hastings most relies, especially seems to be a doubtful characteristic. Many, if not most British authors, state that the legs of the Reed Warbler are light coloured, and if their descriptions have been made from specimens, and not copied, it is not only clear that birds with the light coloured legs (that is, in Mr. Hastings' opinion, Marsh Warblers,) are not at all uncommonly met with, but also that the original *Motacilla arundinacea* of Lightfoot was one.

"The editor must add that he does not charge with want of caution those writers who have unhesitatingly admitted the Marsh Warbler as a British bird; he can only lament that his own power of discrimination is so inferior to theirs. If before investigating the subject he had any prepossession at all, it was in favour of the occasional appearance of the bird in England; but since, according to ornithologists who have studied both species in life, it differs so strikingly in song and habits from the Reed Warbler, it is manifestly unlikely to occur often in this country without its presence being remarked by our numerous out-of-door observers."

In the "Bulletin de la Société Ornithologique Suisse" for 1866, tome 1, partie 2, there is an excellent paper by Monsieur M. V. Fatio, entitled "Quelques Observations sur la *Calamoherbe palustris*, Bechst.," in which the specific differences between that bird and *Calamoherbe arundinacea* are clearly laid down. After reading this paper, as well as that of Mr. Hastings, I feel it is impossible to hold the opinion of Professor Newton, that this specific distinction has not been established. This decision ought, strictly speaking, to exclude the bird from my work, as there is no doubt of the fact that *Acrocephalus palustris* has been taken several times in this country. But the interest which is attached to the subject, and the want of figures and descriptions in English, have induced me to retain the bird, and thus give English ornithologists a better opportunity of deciding the question for themselves. I will make one or two quotations from Fatio's paper.

The two birds had been confounded with each other in Switzerland up to the year 1864, when Fatio discovered with astonishment a great number established in the valley "d'Heremence en Valais." Fatio was at first struck with the song, which he heard at their nesting-place four thousand feet above the sea, in the Valley of the Rhone,

which, he remarks, was inimitable, and but feebly replaced by the less melodious song of *arundinacea*. Having paid a visit in July to the village D'Heremence, he had a good opportunity of studying what he calls "their harmonious *melange* of flute-like and infinitely varied tones." He then more particularly describes the "*chanson matinale*" of the lovely bird, which appears to be a continued series of "mockings" of the notes of other birds:—

"From this moment there was nothing but an uninterrupted imitation of songs of every kind—every bird in its turn was imitated in an unmistakable manner. At one time it was the Polyglot Warbler, another the Sparrow, another the Chaffinch, another the Great Tit or the Wagtail. Again it was the song of the Lark, all at once interrupted by the vigorous cry of the Green Woodpecker. All the singers in the neighbourhood had to bear the irony of this little mocking-bird. Sometimes it had a special song of its own—feeble and soft or strong and powerful—interrupted occasionally by some 'tirecc, trecc,' only repeated once or twice. Very rarely were heard the piercing notes of the Reed Warbler (*Effarvatte*.)

"Other ornithologists have heard it imitate other species. It mocks naturally the birds which live near its own residence in different places and times. Temminck has heard it in Holland imitate the Little Plover, or even the Oyster-catcher. Gerbe has recognized in its song the notes of the Goldfinch and Thrush. Bailly has heard it in Savoy imitate the Reed Warbler, Chats, and other birds.....One of the birds came and sang close to me, and I could see the interior of its half-open beak, which was of a bright yellow colour, and could observe the swelling out of its white throat."

The following gives M. Fatio's specific distinctions between *Acrocephalus palustris* and *arundinacea*:—"The song is more varied, more powerful, and less shrill, and it is also distinguished by the form and position of its nest, and the colours (often very different) of its eggs. The nest is of a round form, and placed in among plants close to the ground, instead of being, like that of *A. arundinacea*, more elongated and suspended to reeds two or three feet high. As the eggs of *A. arundinacea* vary considerably in colour and form, and some of their varieties are much in appearance like the ordinary eggs of *A. palustris*, I cannot attach much importance on this point as distinctive between the two species. In fact I have remarked that in a great number of the eggs of *arundinacea* some are slightly pyriform, of a clear greenish ground, covered with spots of a darker green, and often disposed like a zone at the thicker end like those of *S. cinerea*, while others, on the contrary, contain eggs elongated

and almost perfectly elliptical, with a whitish, bluish, or greyish ground, with scattered spots of a dark green grey or blue. Notwithstanding we must be permitted to say that the eggs of *A. palustris* are generally clearer and furnished with larger spots than those of *A. arundinacea*, resembling more the eggs of *Sylvia turdoides*. *A. palustris* varies a good deal in its proportions, but it is generally stronger than *A. arundinacea*."

The following are the differences in dimensions given by M. Fatio in millimetres:—

Male specimens.	Total length.	Wing from carpal joint.	Tail.	End of wing folded to end of tail.
<i>A. palustris</i>	0.140	0.070	0.054	0.030
<i>A. arundinacea</i>	0.134	0.064	0.053	0.033
	Tarsus.	Bill from commissure.	Middle toe and claw.	Hind toe and claw.
<i>A. palustris</i>	0.023	0.019	0.017	0.016
<i>A. arundinacea</i>	0.022	0.018	0.016	0.0145

"One can see from this table of measurements that the two Warblers do not differ much except in the wings, in the distance which separates these from the end of the tail, and above all in the difference between the extremities of the secondaries and primaries. This second character, which Gerbe has noticed in a paper on the identity of *Calamoherpe pratensis* and *palustris*, is of great importance, not only from its constancy, but for its numerical value. But characters quite as striking and as important may be drawn by comparing the extremities of the wing feathers. In *C. palustris* the first (true) remige measures from seven to eight millimetres more than the fourth, and the second is two millimetres longer than the third. In *C. arundinacea* the first remige is nearly equal to the fourth, and the second is very little longer than the third. The wing of *palustris* is more pointed, and that of *arundinacea* is more rounded, owing to the difference in the comparative length of the remiges.

"The colours of the two species will also assist in distinguishing them from each other. In the upper parts *palustris* is a greenish grey olive, which is lighter on the rump. The light yellowish mark on the side of the head extends from the nostril to above the eye. The wing is above blackish brown, and each of the primaries is bordered with a light bronze. The tail is a little lighter, but of the same tint as wing, and is rounder in form, in consequence of the central feathers being the longest. The throat is white, tinted on the sides with a light yellow. The chest is of the same colour, and tinted with a very pale brown. The belly is also whitish, mixed

with light brown. The flanks darker brown. The under tail coverts are of a dirty yellow white. The feathers on the carpal joint are of a purer yellowish white; under wing lining and thighs are grey brown. The tarsi and feet vary in colour with age, though always resembling that of *arundinacea*. They are generally yellow, more or less tinted with brown, and there is a slight greenish tint upon the toes. The beak is dark brown above and yellowish below. The colour of *A. arundinacea* is altogether lighter: all the upper parts are of a greyish brown tinted with red, besides the colour of the under parts is less dull and more of a reddish hue. The iris is generally greyish brown in *palustris*, whilst in *arundinacea* it is more frequently more of a reddish brown.

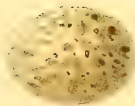
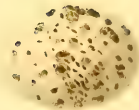
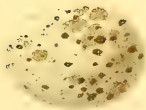
“Here then are two closely allied species, but nevertheless easy to distinguish by certain characteristics in their proportions and colouring, as well as by their song, their nidification, and their different habitats.”

The male and female in breeding plumage are greenish olive grey, the rump somewhat paler green; inferior parts of a white russet, lightest on the chin and throat, having a yellow tint on the sides of the neck and belly; the lores, and a line above the eyes, reddish white. Wings brown, bordered with ash; tail same, bordered with greyish; first primary very short, second a little shorter than the third, which is the longest, and which is twenty millemetres longer than the longest secondary, that of the Reed Warbler being only sixteen. Beak above, black brown, lower mandible yellow flesh-colour; length five lines and a half, and two lines at the base, being shorter and broader than that of the Reed Warbler; the gape, which is orange yellow, is garnished with three or four strong black hairs; iris dark brown; feet yellow flesh-colour; claws darker.

The young birds are above clear olive grey, and underneath slightly inclining to a rusty yellow.

My figure of this bird is from a specimen sent me by M. E. Verreaux. The egg is from my own collection; it was taken at Anhalt, and sent to me by M. Moeschler. The eggs vary from the one figured up to the markings of that of *S. arundinacea*. I have a large series taken in South Russia by Her Glitsch.^o

It is figured also by Naumann, in his *Naturgeschichte der Vogel Deutschlands*, taf. 81, fig. 3, (male;) and by Gould, B. of E. The egg is also figured in Bäder's work.



1. BOOTED REED WARBLER.

2 & 3. MARSH WARBLER.

MOUSTACHED WARBLER.



SCOTTED REED WARBLER.

INSECTIVORÆ.

Family SYLVIIDÆ.

Genus ACROCEPHALUS. (*Naumann.*)

BOOTED REED WARBLER.

Acrocephalus caligata.

Motacilla salicaria,

PALLAS; Zoograph. Ross. Asiat., i.,
p. 492. ? Nec LINNÆUS.

Sylvia caligata,

LICHTENSTEIN; in Eversmann's "Reise
nach Buchara," p. 128.

" *scita,*

EVERSMANN; Addend., iii., page 12-13;
and in Bullet. de la Societe Imp. de
Moscow, 1848, No. 1, p. 225.

" "

BREE; first Edition.

" "

MÜHLE; Mon. der Europ. Sylvien, 1856.

" "

THIENEMANN; Fortpflanzung, v., 199.

" *rama,*

SYKES.

Iduna caligata,

KEYSERLING AND BLASIUS, 1841.

Lusciola caligata,

KEYSERLING AND BLASIUS, 1840.

Salicaria caligata,

SCHLEGEL; Revue, 1844.

Calamohërpe caligata,

DEGLAND, 1849.

Riverain botté,

OF THE FRENCH.

Gestieffelter Rohrsänger, and

Schmucker Rohrsänger,

OF THE GERMANS.

Specific Characters.—All the tail feathers rounded, the external one on each side somewhat shortened, and edged with pale grey brown. Length four inches and nine lines; wings two inches and two-fifths; tail two inches; tarsi four-fifths; middle toe three-tenths without claw.

THERE has been much written about this little bird, whose history appears to be as follows.—Pallas, in his “Zoography of Asiatic Russia,” describes a small Reed Warbler, under the designation of *Motacilla salicaria*; the Warblers in those days being mixed up with the Wag-tails. In the history of Eversmann’s travels to Bucharest, Lichtenstein, the German naturalist, has noticed a bird, now in the Berlin Museum, labelled “*Sylvia caligata*, Siberia, Eversmann,” in the following words:—“A new species, and distinct from all our European Reed Warblers, which Pallas, under the mistaken name of *Motacilla salicaria*, very fully and correctly described.”

It resembles *Sylvia arundinacea*, Latham, in its youthful plumage, but it may be distinguished as follows:—“The length from the tip of the beak to the rump is only two inches and five lines; the tail is about two inches one line; the beak is much smaller, only five lines and a half long. The tarsus is nine lines; the superciliary streak not clearly developed, and it is booted to the root of the toes with scales. The construction of the wing is also different: the second primary is of the same length as the sixth, and the third, fourth, and fifth are the longest, whilst in *arundinacea* the fifth is shorter than the second; also the fourth, fifth, and sixth are contracted in the outer web. The legs are of a bright colour, and the first year’s plumage of *arundinacea* is much paler.”

Keyserling and Blasius also describe the Berlin specimen minutely, and consider it synonymous with Pallas’s *Motacilla salicaria*, which view is also taken by Schlegel in an elaborate analysis in his “Revue Critique.” Lastly, Count Mühle, after careful examination of the specimen in the Berlin Museum, identifies it with a specimen he had killed in Greece. Eversmann, having in 1842-3 published an addenda to Pallas’s “Zoography,” described the bird which he had discovered as *Sylvia scita*. Thus it is quite certain that the latter bird, captured in Greece, and described and figured in his work, is identical with the *S. scita* of Eversmann, thus establishing clearly its title to the distinction of an European species.

In the “Ibis” for 1867, p. 24, the late Mr. Blyth writes of the Indian *Phylloperuste rama*:—“I have compared Indian with Siberian specimens marked *S. scita* in Mr. Gould’s collection, and consider them identical, the latter being in summer aspect of plumage, with abraded feathers that show greyer and much less olivaceous (as indeed I have seen in some Indian examples,) agreeing with Dr. Bree’s figure of *S. elaiaca*. The range of the latter extends to Egypt and Algeria. I have never obtained *P. rama* in the immediate neigh-

bourhood of Calcutta upon the mud soil; but higher up the river Hugli, where sand prevails, it is tolerably common, in the cold season frequenting the bush jungle."

Upon this Canon Tristram remarks, "Ibis," 1870, p. 493:—"I have lately received some very interesting series of Indian passerine birds, from my friend and zealous ornithological colleague Mr. Brooks, which throw light on the geographical distribution of several species.

"First I find, as Mr. Blyth had previously noted, ('Ibis,' 1867, p. 24,) *Phyllopneuste rama* (Sykes) is apparently identical with *Sylvia caligata* (Licht.), and breeds in Northern Asia; but Mr. Blyth at the same time suggested that possibly *Hypolais elaiica* might also be identical. On comparison, however, I find this to be very distinct."

Mr. Tristram says that in Temminck's description the length of the tarsus has been exaggerated, and that all subsequent writers upon European birds have fallen into the same mistake. Mr. Tristram does not, however, tell us what the measurement ought to be, nor in what work Temminck's measurements are to be found.

In the "Ibis" for 1871, p. 33, Mr. Hume doubts the identity of *Sylvia caligata* and *P. rama*, and upon the authority of M. Verreaux claims for the former the rank of a new Indian species. Mr. Hume goes on to say *more suo*:—"Mr. Tristram goes I believe by the British Museum specimen of *S. scita*. Who knows that this specimen is correctly named? If it be so, how can M. Verreaux have named an altogether different species *S. caligata* vel *scita*? Where is the type specimen of *S. scita*? This seems to be a matter worthy of further enquiry."

Mr. Blandford, however, in the "Ibis" for 1874, p. 79, after examining the Berlin specimen of Lichtenstein, has declared his opinion to be, in his own words:—"The various forms described as *Salicaria elaiica* (Lindermayer), *Curruca pallida* (Hemp. and Ehr.), *Sylvia caligata* (Licht.), *Sylvia rama* (Sykes), and *Jerdonia agricolenis* (Hume), all I believe belong to one species, varying much in size and slightly in structure, and belonging to the genus *Hypolais*. The western form *H. pallida*, H. and E.,=*elaiica*, Lindermayer, has a rather broader bill, and is a somewhat larger form than *H. caligata*, Licht.=*rama*, Sykes, whilst *H. agricolenis*, Hume, is a still smaller race; but all pass, I think, into each other so thoroughly that I cannot distinguish the different forms. The type specimen of *Sylvia caligata* has I believe the bill distorted or altered."

I will copy at length a translation of Count Mühle's original notice of this bird, omitting such parts of it as have been already quoted.

"This Warbler was discovered by Eversmann and described in his addenda to the celebrated Zoography of Pallas, under the name of *Sylvia scita*. This work appeared in 1842-3 in Cassan. Later, when Eversmann undertook the investigation of natural history in the Expedition to Bokhara from the Russian Government, he sent his skins collected during the expedition to Count Lichtenstein in Berlin, who also worked out the zoological part of these travels, Dr. Eversmann not having time and means at his disposal. Lichtenstein described one of the skins under the name of *Sylvia caligata*, because the specimen, an old bird, had such 'overgrown' scales on the legs; an appearance more or less observed in Reed Warblers, especially *S. palustris* and *S. arundinacea*. Assuming this 'booted' appearance as a striking character, *Motacilla salicaria* of Pallas was brought forward as a synonym, on account of the expression used by Pallas of 'tibia integra,' without considering that Pallas introduced *Curruca arundinacea*, Brisson, and *Motacilla salicaria*, Linnæus, as synonyms. Keyserling and Blasius described the Berlin specimen of *S. caligata*, Licht., very exactly, adding however, on Lichtenstein's authority, that *M. salicaria* of Pallas was a synonym, an example followed by Schlegel in his 'Revue.' After Eversmann was in Berlin, however, and saw the type of Lichtenstein's *S. caligata*, sent by him (which was put away among the Nightingales,) and he reported to the 'Bulletin Imp. Mosc.,' 1848, No. 1, p. 225, that *S. caligata* of Lichtenstein was his earlier described *S. scita*, and rejected the allegation of *M. salicaria*, Pallas. Suddenly, however, a new claim was set up for the hard pressed *S. scita*. Her Liljeberg, from Lund, in Sweden, in the preface to his Natural History Collection in Stockholm, 1852, (see Naumann, vol. ii., part 2, page 95,) gives a species newly discovered by him, *Sylvia magnirostris*, and is not certain whether it belongs to *S. scita* or not. We are very far from being able to give a competent judgment in this strife of synonyms, and confine ourselves to a bird brought by us from Greece, which we have had the opportunity of comparing with an original example of Eversmann's in the Duke of Leuchtenberg's collection in Eichstadt, through the kindness of the conservator, Dr. Frischmann, and by this means we have been able to prove the identity of species.

"The Berlin specimen is described by Keyserling and Blasius as *Lusciola caligata* thus:—"Tail feathers rounded, middle one somewhat shortened, grey brown, sprinkled with paler. The outer feathers all round—the next within and at the end edged with dull whitish. Outer edges of third to sixth wing feathers visibly narrowing towards the tip. Upper parts pale olive brownish grey; underneath whitish;

throat clear white; moustache pale brownish white, and no streak above the eye.'

"Schlegel, in his 'Revue,' has the following. In the Berlin Museum is found a specimen of this rare species which he describes thus,—'Length of *F. trochilus*; colouring similar to *S. arundinacea*. Wing two inches and four lines; tail two inches; tarsus nine lines and a half; middle toe five lines; claws large, hinder ones more curved. Beak moderate, strongly compressed laterally, thence much higher than broad. Tail somewhat rounded. Leg in front having four scales, of which the second takes up two thirds of leg, upper and under ones small, the third double the size of the lowest. Colour of legs dull pale olive, tending to white below. Wing and tail feathers grey brownish, the latter with lighter outer edge and tips. The third to sixth wing primary narrowed on the outer edge.'"

I copy the following from the "Resa i Nordvestra Ryssland, Som-maren 1869," of Dr. Meves, of Stockholm:—"With this bird I was as unlucky as with the last named. Riding in a telega, during rainy weather, I heard on the 4th. of July, seven versts (four and two thirds English miles) from the Tichmanskoï Station, near the Lake Latscha, the strong and fine, but to me unknown song of a *Sylvia*. The bird hovered over a marshy meadow grown over with willows and alders, and flew singing from bush to bush. I looked at the little greyish bird at a distance of about twenty-four feet, and thought at first I had before me a specimen of *S. trochilus*. He flew a short distance and then recommenced his song. I fired at him, but unfortunately he fell amongst some bushes and tall grass, where my efforts of finding him were made in vain. After awhile I heard another of the same species, but this also I failed to procure. I was exceedingly sorry, but had no other choice but to continue my journey to the station. There I stayed the whole of the succeeding day, but the rain increasing made it impossible for me to make any extensive excursion. The song bore a certain resemblance to that of the *Hypolais icterina*, but assimilated also to that of the Sedge Warbler.

"When I returned to St. Petersburg, I saw in the Museum three specimens of *Sylvia scita*, and do not doubt that this was the bird I had seen at the place named above.

"The synonymy of this bird seems to be tolerably well cleared up by recent ornithologists, but as Dr. Eversmann, in the 'Journal für Physiologie,' 1853, tries to defend the view that *Motacilla salicaria*, Pall., is identical with *S. arundinacea*, Briss., I may be allowed to call attention to the following points: first, Pallas (*l. c.*) says distinctly that *Motacilla salicaria* is smaller than *Motacilla sylvia* (*S. curruca*, Lath.);

secondly, he describes the very significant first quill feather thus: 'remigibus 19, quarum prima $\frac{2}{3}$ brevior;' as is known, it is in *S. arundinacea* nearly as long as the wing coverts.

"The three specimens of *Sylvia scita*, Eversm., in the Petersburg Museum, namely, two adults and one young, were from Ural. The male, shot on the 18th. of June, 1842, was brownish grey above, upper rump yellowish grey, quill and tail feathers brownish grey; an obscure streak over the eyes yellowish; under side greyish white; chin and middle of the belly lightest in colour; tail rounded off, the outer feathers four and a half millimetres shorter than the middle ones. Female like the male. *Young male*, shot at Spask on the 6th. of July, lighter ochre grey in colour, particularly conspicuous on the outer edge of the quill feathers. Yellowish white streak over the eyes broad. A specimen from the same locality, in most points agreeing with the latter, Professor Mäklin was good enough to lend me, and in this the *first* quill feather is six millimetres longer than the hand-coverts; the *second* of the same length as the sixth; the third and fourth longest. Tail somewhat different from that of the adults, being rounded off, it is true, but the two middlemost feathers are some millimetres shorter than the nearest ones, undoubtedly in consequence of an incompleteness of development not unusual in young birds before the moulting. Tarsus covered with seven plates, of which the first, second, and seventh are very short; the third, fourth, and fifth of equal length; the sixth shortest. Besides, the base (root) of the toes covered with two joint-plates. Bill at the root (base) greater in height than width. Other measurements as follows:

Sex.	Bill.		Tarsus.	Toes.		Wing.	Tail.	Locality.
	From forehead.	From angle.		Middle toe.	Hind toe.			
Male	def.		21	15	10.5	60	49	Ural, (Petersburg.)
Female	10	14.5	20	14	11	57	def.	" "
Young	9.5	13	19	10.5	5.5	61	47	" (Helsingfors.)

"I may be allowed here to mention a bird from the N.W. Provinces of India, namely, *Phyllopneuste rama*, Sykes, for which I am obliged to Mr. Dresser, who, in a letter, considers it to be identical with *Calamohерpe caligata*, Licht. The specimen is an old bird, but in a state of strong moult, so that not all 'plastic' conditions (criteria) can be stated with certainty. In colour and several other respects it resembles *Iduna salicaria*, but the form of the bill shows that it is a genuine *Calamohерpe*. The bill resembles most that of *C. arundinacea*, and at the base is greater in breadth than height. The first quill feather is *very long*, and extends eight millimetres beyond the wing coverts; in the specimen before me the relation between the other

feathers cannot be ascertained. Bill from forehead 12, from angle 16 millimetres; tarsus 19 millimetres; middle toe 10.5 millimetres, hind toe 5.5 millimetres; wing 60(?); tail strongly rounded off, about 54 millimetres. Bill and tail differ therefore considerably from those of *Iduna salicaria*."

The Booted Warbler has been found in Siberia, Russia, Greece, and India. Eversmann found it on the banks of the rivers in the Ural Mountains. It is described by Pallas as inhabiting the banks of rivers, among the willows. It hangs on the stems of the trees, and is continually in motion, and singing most agreeably. It constructs in the forks of the branches a nest composed of grass, and it lays four or five eggs.

A male specimen, marked *Motacilla salicaria*, sent to me by Herr Schlüter, of Halle, has the head, nape, back, and upper tail coverts olive tinged with brown; wings brown; the first (true) primary equal in length to the fifth; the second, third, and fourth equal, and longest in the wing; secondaries slightly tipped with white, and edged with yellowish white. Tail round, and brown like the wings; the two lowest and most external feathers edged with white. Chin, neck, and breast white; abdomen and flanks yellowish white; under wing coverts, cream-coloured; rest of the under wing and under tail slate grey. A decided superciliary streak of lighter yellowish white. Cheeks olive; culmen three-fifths of an inch long, black; lower mandible yellow, with darker markings near the tip. Tarsus thirteen-twentieths of an inch long, and light yellowish in colour; middle toe half an inch long; hind claw large, being one-fifth of an inch long measured straight.

My figure of this bird is taken from a specimen, killed in June, 1874, sent to me by Herr Schlüter, of Halle, with the egg, also figured, and the following remarks:—"This bird nests in the Steppes of Kirgisch. It likes to live in company. The position of the nest is from half a foot to five feet from the earth. The nest is not built close against the reeds, and bound up with them, but is generally loosely built. I saw it in *Rubus surnis*, and also on one of the small-leaved reddish brown willow bushes; often also on elevations in the downs, on *Elymus sabulosus* and wild roses, with other singing birds. It builds generally in June and July, but there are many nests earlier. It lays four or five eggs."

Since the above was in type I have seen the account of this bird in Dresser's "Birds of Europe." That gentleman says he has consulted Eversmann's specimen in the Berlin Museum, and that it is a

Hypolais. It is quite clear then that in the figure in my first edition, copied from this specimen by Count Mühle, the colours have been slightly exaggerated. The strong affinities which *Iduna salicaria* has with *Hypolais elaica* are manifest at a glance, but still the colours are strongly pronounced and different in each. The beaks also differ, being considerably more robust in *elaica* than in the present bird. Its habits also decidedly place it among the *Acrocephali*, in which class I have arranged it.



INSECTIVORÆ.

Family SYLVIIDÆ.

Genus ACROCEPHALUS. (*Naumann.*)

MOUSTACHED WARBLER.

Acrocephalus melanopogon.

<i>Sylvia melanopogon</i> ,	TEMMINCK; Man., 2nd. Ed., p. 121, 1835.
“ “	BREE; 1st. Edition.
“ “	SCHINZ; Europ. Faun., 1840.
“ “	MÜHLE; Monograph, 1856.
<i>Calamodyta melanopogon</i> ,	BONAPARTE, 1838.
<i>Salicaria melanopogon</i> ,	KEYSERLING AND BLASIUS, 1840.
“ “	SCHLEGEL; Revue, 1844.
<i>Cettia melanopogon</i> ,	Z. GERBE; Dict., 1848. DEGLAND, 1849.
<i>Bec-fin à Moustaches Noires</i> ,	OF THE FRENCH.
<i>Schwarzbartiger Rohrsänger</i> ,	OF THE GERMANS.
<i>Torapaglie Castagnolo</i> ,	OF SAVI.

Specific Characters.—Beak very slender, and drawn inwards; eyebrows broad and white; the vertex, lore, and a spot behind the eyes black; twelve quills in the tail; tarsi blackish. Length four inches and a half; carpus to tip two inches and one fifth; tail one inch and a half; tarsus nine tenths of an inch; beak, from gape, half an inch.

THE Moustached Warbler is a rare bird, for, notwithstanding the statement of Temminck that it is common in the neighbourhood of Rome, near Ragusa, and in Tuscany, but few specimens are found in cabinets. It occurs, however, in Sicily, Italy, the south of France, Spain, Greece—in the swamps of Lentini, and at Syracuse. Temminck says that it is “*très commune*” about the lake Castiglione, and Ostia. However this may be we know very little about its habits, more than

has been mentioned by M. Cantraine, who collected specimens for Temminck in Italy, and who remarks that it always lives in the swamps, and in the bushes which surround them. It climbs along the reed-stems like the rest of its family, and lets its sharp singing notes be heard clearly enough. Like *Sylvia aquatica*, it also runs along the reed-stems and water-plants, above the surface of the water. It is not shy, and frequently sits on the tops of the reeds. Those which M. Cantraine killed in the winter were all males.

Salvadori, "Fauna d'Italia," writes of this bird:—"I believe that this species is stationary in certain localities in Italy, where it is rather frequently seen. I have found it all through the winter in Pisa, where it is rather common, and probably nests there. Cantraine has found it rather common in November, in the neighbourhood of Ostia, and upon the shores of Lago de Castiglione in Romano. He always found it in marshy places, and amongst the low shrubs on the banks of the lake. It creeps up the stems of the rushes, sending forth a rather strong cry. Then it descends on to the aquatic plants swimming upon the surface of the water. It may be sometimes seen perched upon the small reeds. It does not show any timidity.—(Temminck.) It is rather common in Sicily, near Lentini and Mazzara. It appears accidentally in Liguria (Durazzo), in Venetia (Perini), and Malta (Wright). In Sardinia it has not been observed by Cara Hensmann or myself. Nevertheless an individual is preserved in the Turin Museum from Sardinia, and perhaps if well sought for might be found to be not rare. Hitherto no one has observed the nest in Italy. It is said to nest in the middle of clumps of aquatic plants. The nest is cup-shaped, and the eggs, four or five in number, are of a bluish white, marked with brown points, which are thicker towards the obtuse end."

Doderlein ("Faun. Sic. et Mod.") says of this bird:—"This species, proper to the South of Europe, has not been till now in the Modenese lists, although it is sufficiently common in the marshy plains of Italy. In Sicily it is sometimes found in the 'viviere' of Lentini and in the lake of Mazzara. One I killed in the fruit-trees of Mondello. The Museum of Turin has one individual of this species which came from Sardinia, from which Salvadori infers that it is there a spring visitor."

The Rev. Canon Tristram writes in the "Ibis" of 1870, p. 301:—"I should like to mention in the 'Ibis' that I have just received from my friend Mr. Brooks a pair of *Sylvia melanopogen*, Tem., shot at Etawah, in the North-west Provinces of India, an entirely new locality for this rare Warbler, of which I never before saw but the

single example obtained on my expedition to Palestine, (P. Z. S., 1864, p. 438; 'Ibis,' p. 77.)"

Mr. Tristram has been kind enough to send me for examination the skin above mentioned from Palestine, and one of those shot in India. The latter is not sexed. The former is marked "Male, shot at Gennesaret, March 31, 1864." These birds do not differ in any material points from the skin sent me by M. Verreaux, and which was figured in the first edition as well as this. The black moustache is rather more pronounced in my figure, and the shoulder being covered with feathers, fails to show the white mark which extends from the carpal joint along the border of the wing for about three quarters of an inch. The Indian bird is also somewhat longer than the other two, and the skin sent to me by M. Verreaux has more rufous in the plumage.

When I wrote about this bird fifteen years ago, it was a rare Warbler. It is still among the rarest of its genus, which is clearly that which includes our Reed Warblers.

M. Moquin-Tandon, quoting from M. Lebrun, of Montpellier, says:—"This Warbler builds among the reeds. Its nest is small, in the form of a deep cup, and composed of fibrils and roots and leaves of small grasses, and the interior is lined with horse-hair and wool. It contains four or five eggs, having an azure white ground, with brown spots, larger and more thickly scattered round the larger end. Great diameter fourteen millemetres, small eleven."

A male in breeding plumage sent me by M. E. Verreaux, has the head dark black; nape, back, and rump rich nut brown, with longitudinal rays of black on the middle of the feathers of the back; throat, crop, and upper part of the belly pure white, slightly shaded about the crop with russet; flanks, lower part of belly, and under tail coverts a lively russet; the lores and a spot behind the eyes, black; superciliary ridge white, becoming broader towards the nape. Wings and tail dark brown, the inner barbs of the primaries bordered with white; beak and legs brown; iris nut brown. First primary very short, the second shorter than the third, which is somewhat shorter than the fourth, the fourth and fifth almost equally long, the latter longest: the exterior web of the fourth and fifth contracted towards the end.

Degland says that in the autumnal plumage the upper parts are of a tint less dark, with the black lines on the centre of the feathers of the head, and the borders of those on the body redder. The white of the neck, crop, and stomach less pure; the crop and flanks of a darker reddish brown. The young before the first moult are of a

lighter brown, with more olive-colour above.

My figure of this bird is from a skin sent me by M. E. Verreaux, and the egg is from the collection of Canon Tristram. It was taken by Mr. Howard Saunders in the south of Spain.

Figured by Temminck and Laug., pl. col. 245; by Roux, Ornith. Prov., pl. 233; Savi, Ornith. Tosc.; Mühle, Monogr. der Eur. Sylv.



FORK-TAILED WARBLER

INSECTIVORÆ.

Family SYLVIIDÆ.

Genus ACROCEPHALUS. (*Naumann.*)

FANTAIL WARBLER.

Acrocephalus cisticola.

<i>Sylvia cisticola,</i>	TEMMINCK; Man., 228, 1820.
“ “	VIEILLOT; Faun. Fr., p. 227.
“ “	SAVI; Ornith. Tosc., 1827.
“ “	SCHINZ; Europ. Faun., 1840.
“ “	MÜHLE; Mon., 1856. BREE; 1st. Ed.
“ <i>typus,</i>	RÜPPEL; Neue Wirb. Vögel, p. 113.
<i>Cisticola schænicola;</i>	BONAPARTE, 1838.
“ “	DURAZZO; Ucelli Liguri, 1840.
“ “	Z. GERBE; Dict., 1848.
“ “	DEGLAND, 1849.
<i>Salicaria cisticola,</i>	KEYSERLING AND BLASIUS, 1840.
“ “	SCHLEGEL; Revue, 1844.
<i>Riverain Cisticole,</i>	OF THE FRENCH.
<i>Cisten Rohrsänger,</i>	OF THE GERMANS.
<i>Beccamosche,</i>	OF SAVI.
<i>Cerrapunio,</i>	AT GIBRALTAR, (SAVILE REID.)

Specific Characters.—The fan-shaped tail grey brown, each tail feather tipped with white, and with a black spot near the extremity of each; no white band over the eyes; beak curved downwards. Length of a specimen sent me by M. E. Verreaux, three inches and four fifths; from carpus to tip two inches and one fifth; tail one inch and three quarters; tarsus nine tenths of an inch; beak, from gape, three fifths of an inch.

THIS pretty little Warbler, the smallest of the European Reed Warblers, is at once distinguished from all others by its curved beak and fan-shaped black and white tipped tail. It was first described

by Temminck, in the first edition of the "Manual," from skins brought to him from Portugal, by M.M. Link and Hoffmansegg, and was subsequently taken by Natterer in some plenty at Algesiras, in the neighbourhood of Gibraltar. It belongs to the genus *Cysticola* of Lesson and Bonaparte, and is closely allied to the so-called Beutelsingers which inhabit especially Asia, Africa, and New Holland, bearing, as Count Mühle observes, the same relation to the other Warblers as the Beutel Titmouse does to the other Titmice.

Salvadori, "Fauna d'Italia," says:—"It is common and stationary in Sardinia and Sicily, where however many do not arrive till winter. It is, however, common in Rome, Tuscany, Modena, Liguria, and Lombardy, but only in the spring and summer (buona stagione.) It also occurs in Piedmont and Venetia, but not very frequently. It is not found in Malta."

Doderlein says of this bird that it is stationary and common in Sicily throughout the year, but rather more abundant in autumn and winter. It lives in marshy places and among fruit trees, and in the birch woods near the sea. Mina says it is also found in the fields at the foot of Madonie. Near Palermo it appears in all seasons in the marshy grounds of Mondello and Ficarazzi, where it is hidden among the myrtle. From hence it takes short flights into the air to fall again with light somersaults into the same bushes. In summer this bird goes into the higher valleys of the island, and near Palermo several couples nested near the sources of the river Oreto. It may, however, breed in the lower parts of the country, as in July and August some young birds were found nearly fully fledged in the neighbourhood of Mondello. They are also stationary and common in Sardinia.

It is found in Portugal, the marshes near Rome, Tuscany, Sardinia, and Sicily, where it is very common. In France it is principally found on the banks of the Var, and the marshy country of Camargue. It is found along the whole shore of the Mediterranean, is plentiful in Greece and Spain, and ranges to Algeria, Cape Lopez, Zanzibar, Madagascar, Palestine, Asia Minor, the whole of India south of the Himalayas, North and South China, Formosa, Java, and even to the south of Siberia.

Count Mühle remarks, "that it appears always lively and cheerful, winter or summer. It loves to live among sedges and rushes in ponds and swamps, and may be often seen rocking itself with evident pleasure on the top of the papyrus plants, (*Cyperus papyrus*.) In summer it dwells by choice in swampy grounds, and when these become cold and bare in winter it resorts to the high grass of the

meadows and corn-fields. It does not appear to frequent the cistus tree, and therefore the name given to it by the Germans, *Cistensünger*, is misapplied."

In its habits we perceive a strong similarity to the rest of its family. "If it hide among the grass, in a few minutes it will be perceived coming up to higher branches of the shrubs, fluttering and hopping after smaller insects on the leaves of the sedges and reeds, and, rising suddenly in the air, stop a short time and then come down to the same spot, from whence it will again conceal itself among the bushes."

Its flight is not rectilineal, but takes the form of a curve, which corresponds to the repeated flapping of its wings, during which it frequently utters its sharp shrill call-note. This resembles much that of *Anthus pratensis*, and is its entire song. It is heard loudest when it thinks its nest is in danger, upon which occasions it wheels round the intruder's head in circles, uttering loud cries.

"It breeds three times in the year: the first time in April, when the nest is built negligently, for want of materials, and it generally chooses a sedge or rush clump for its home. It is always one foot distant from the ground. The perfect nest is a very beautiful and wonderful construction; the stalks of the plants which form the outside are entwined together with a perfect needle-work, not merely strung one to another. In the sides of every leaf the little bird reaches with its beak, it makes a small opening, and passes through plant fibre threads, formed from the *Asclepiadæ*, *Epilobiæ*, and the pappous of *Syngenesia*. Those threads are not very long, and reach only twice or thrice from one leaf to another, and it is astonishing how these little birds so elegantly and solidly accomplish the troublesome work. The inside of the nest is merely spread over with the down of plants. The eggs, in number from four to six, are more or less a lively greenish grey; and, according to Savi, some are flesh-coloured."

Brehm, in Bädcker's European eggs, calls this bird the "European Tailor Bird," from the manner in which it sews up the materials of its nest: he declares also that a knot was found by Baron von Kœnig at the beginning of the thread! The narrow entrance is either on the side or in the top, so that the nest has the form of a bag. In the inside he says it is lined with long grass leaves, and the eggs are five or six, in size between our Common Wren and Goldcrest; they have a very soft shining shell, and are either blue green, like the Redstart's, or paler, like those of the Pied Flycatcher; or they are sometimes of a shining white only.

I copy the following from Mr. Savile Reid's notes from Gibraltar:—" *S. cisticola* is very common about the Guadarranque Valley, and among the hills about San Roque and Algesiras. Its loud harsh notes are to be heard on all sides during the winter and spring. It breeds in considerable numbers near the mouth of the Guadarranque. I saw a beautiful nest with four eggs brought in from there by Major Irby on the 18th. of April, 1872. On the 28th. José got me a nest from which the young birds had recently flown. It was not so neatly made and sewn to the grass stems as Major Irby's."

"May 8th., 1873. The first brood of this little bird appears to have already left the nest. On the 4th. of May I saw a promising family of five or six little ones, attended by their anxious parents, in a field of barley near the first river. I have not received any nests or eggs this spring. They breed in marshy spots beyond the first river ferry, which have hitherto been too wet to examine."

Major Irby also writes from the same place,—“Resident and abundant, breeding twice a year.”

I quote the following from Von Heuglin's "Vögel Nord-Ost Africas:—" "This is an accidental bird in Egypt, Nubia, and the north of Arabia; it goes southwards as far as Habesch, even to Senaar and the Lower Abiad. Generally these lively and elegant little birds are met with in pairs. They live in clover and wheat-fields, in arundo groves, on meadows, in acacia and date trees, especially if these are growing among thick plants and grass away from cultivated land on the borders of the wilderness. Often several pairs nest in a small space, which they seldom leave. Though not shy, our little bird leads a rather retired life. It keeps chiefly to bushes and grain plants which grow low. It hops and perches here and there, constantly backwards and forwards in the manner of the Reed Warbler, and not seldom comes down to the ground, where it knows very well how to run nimbly about on the grass. The male shows itself at times on a projecting twig or isolated blade of grass, and sends forth its somewhat buzzing song.

"In Lower Egypt it nests in March, when the males hover about the breeding-place, frequently singing as they rise like other Warblers. They also flutter backwards and forwards, uttering an alarm-note, very loud and wooden, like the Wall Lizard.

"My experience does not bear out some of the accounts of other observers. By Savi and Passler this bird is said to build so peculiar a nest that it can be mistaken for no other. Their description is, 'Reed-stalks and sedgy leaves, closely interwoven, the leaves bored through the centres with the beak, and sewn together with silk fibre

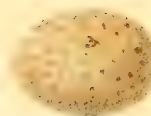
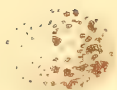
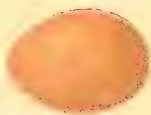
of plants; the entrance into the long bottle-shaped nest either above or sideways; five brilliant white eggs, which, however, vary much in respect of the true ground colour and markings.' Brehm says nothing about the nests, but that the eggs are light blue. In Egypt and Nubia this bird breeds apparently in wheat and clover-fields, but I myself only found it in date bushes, or on low thorns with dry grass growing high about them. The nests were one or two feet above the ground, were four inches and a half to six inches high, the deep nest holes two inches to two inches and a half in diameter. The entire construction is not very thick nor solid; its outward form is guided by its surroundings, and resembles more or less the nests of the Reed Warblers. It never, however, hangs loose, but is woven into leaves, thorn stalks, small branches, and even high grass stalks. It is made of dry grass and root fibres, the inside being carefully lined with wool, hair, and fibres. The eggs, four in number, are of a lively reddish white, and have very fine shells with numerous delicate rust-coloured spots and points, which often at the greater end are crown-shaped, and so closely placed as completely to hide the ground colour. We also found some that had greenish white ground, and light violet and rusty red dots and points. They are of an oval form. On the 27th. of June, 1852, I found in Central Nubia three broods: one nest with two young ones and two unhatched eggs; the other two partly hatched and as many fresh eggs; the third only two unhatched eggs. We found the bird six thousand feet above the level of the sea, down to the sea level. Its food is principally small insects and insect eggs. Brehm says the undigested parts of small coleoptera and diptera, caterpillars and snails, are cast up again. According to Swinhoe, Tristram, Blyth, and Jerdon, the Indian and Chinese varieties are not distinct from the European. A Malay specimen in the Bremen Museum is almost exactly like the latter, differing only in having the rump of a less lively rust-yellow brown, and the white tips of the tail feathers underneath somewhat broader and clearer. According to Finsch the young are distinguished from the old birds by the remarkable rusty-yellowish brown ground-colour of the flanks above, and the rusty yellow washed out underneath, tending to a lively rusty yellow brown on the sides."

In the "Bulletin de la Société Ornithologique Suisse" for 1865, there is an excellent paper upon the habits and propagation of this bird, by Godefroy Lunel, as he had observed them in the south of France. I make one or two extracts:—"The Fantail is sedentary in the south of France, where it lives during a great part of the year, in the vast swamps and their rushes which abut on the shores of

the Mediterranean; it is not rare in Provence, through the whole of Languedoc, in the environs of Montpellier and d'Aigues-mortes; it is also very common in the Basse Camargue and in the rice plantations of the Delta of the Rhone. This charming bird, of a very lively disposition, is in constant movement. It may be seen to hop and flutter through the tall plants seeking for small coleoptera, caterpillars, spiders, gnats, and the small seeds which constitute its food. After it has caught some insects it rises in the air, describing short circles, uttering at the same time a piercing cry something like *czi, czi, czi*, dwelling upon the last syllable. It stops suddenly, balancing itself in the air for a few moments, and then continues its ascensions. It mounts sometimes so high that it becomes lost to view, though we still hear its monotonous cry, *czi, czi*. In a few seconds it re-appears and descends in the same manner; on approaching the ground it falls down like a shot, and rests on the branch of a tamarind tree or on the extremities of the reeds; presently, if a male, it begins a babbling which, though not without its charm, is a song of short duration, for it very soon recommences its airy evolutions."

Towards the end of March or beginning of April it commences its first nest, which, as I have previously described, is a wonderful structure. This first nest has not the elegance and solidity of the second one, as it has not in that early period the same materials to work with. M. Lunel mentions finding a nest in August with five young ones pressing out of the top, which when he approached jumped out and hid themselves among the tall plants near. Returning some hours afterwards he found they had gone back to the nest again, when he took care not to frighten them any more. This is a rare thing among birds, but M. Lunel says he has observed the habit in the young of *A. arundinacea*, *Sylvia Cetti*, *S. cinerea*, *Hypolais polyglotta*, and *Alauda arvensis*. The eggs are, as pointed out by M. Lunel and illustrated by my figures, most variable in colour, even in the same nest, being white, rose, blue, green, or white spotted with rusty brown or clear red or russet. In France spotted eggs are rare. In Algeria, according to Mr. Loche, such eggs are the rule, plain ones the exception.

The male and female specimens sent me by M. E. Verreaux, have the upper parts strongly marked with black in the centre of the feathers, with a shade of russet and grey on the borders; head and neck varied with the same colours, and the rump red; throat and middle of the belly white; the crop, sides of neck, flanks, and under tail coverts russet yellow. Wings like the back; the primaries with less black in the centre of the feathers; tail brownish black, the ends



1. CETTI'S WARBLER.
2, 3, & 4. FANTAIL WARBLER.
5. RIVER WARBLER.

of the quills tipped with ash-colour; beak, (which is curved,) feet, and iris brown.

According to Savi the interior of the beak of the female during breeding time is yellow, that of the male violet black.

The young before the first moult resemble the old birds, only the spots on the upper part of the plumage are less, and not so dark.

My figure is from a specimen sent me by M. E. Verreaux. Figured also by Temminck and Laug., pl. col. 6, f. 3; Roux, Ornith. Prov., pl. 232; Gould, B. of E.; Mühle, Monograph, in two plumages, one the normal type described above, the other having no spots or stripes on the vertex. The specimen was brought from Greece by Count Mühle, and is exactly the same as those described by Temminck from Japan.

The three varieties of the egg are from my own collection. They were taken at Valencia and Gibraltar, and came to me from Moeschler and Mr. Savile Reid.

INSECTIVORÆ.

Family SYLVIIDÆ.

Genus ACROCEPHALUS. (*Naumann.*)

CETTI'S WARBLER.

Acrocephalus Cetti.

<i>Sylvia Cetti,</i>	MARMORA; Mem. della Acad. di Torino, vol. xxv., p. 254.
“ “	TEMMINCK; Man., 1820.
“ “	SCHINZ; Europ. Faun., 1840.
“ “	Z. GERBE; Mag. de Zool., 1840.
“ “	MÜHLE; Monog., 1856. BREE; 1st. Ed.
“ <i>sericea,</i>	NATTERER.
<i>Cettia altisonans et sericea,</i>	CH. BONAPARTE, 1838.
“ “ “	Z. GERBE; Dict., 1848.
“ <i>Cetti,</i>	DEGLAND, 1849.
<i>Salicaria Cetti,</i>	KEYSERLING AND BLASIUS; Der Wirbel- thiere, 1840.
“ “	SCHLEGEL; Revue, 1844.
<i>Bec-fin Bouscarle, Bec-fin Cetti,</i>	OF THE FRENCH.
<i>Cetti's Rohrsänger,</i>	OF THE GERMANS.
<i>Usignuolo di Fiume,</i>	OF CETTI; in Ucc. di Sardegna.

Specific Characters.—Upper parts of the body unicolorous rich dark chesnut brown; superciliary ridge whitish, long, and narrow; the tail rounded, consisting of only ten quills; tarsi clear brown. First primary of medium length, second equal to ninth, the third shorter than the fourth, fourth and fifth longest.

Dimensions of specimens sent me by M. E. Verreaux.—Male: length from tip of beak to end of tail five inches; carpus to tip two inches and a half; tail two inches; beak three fifths of an inch; tarsi nine tenths of an inch. Female: from tip of beak to end of tail four inches and a half; carpus to tip two inches; tail one inch and three quarters; beak three fifths of an inch; tarsi eight tenths of an inch.



CETTI'S Warbler, distinguished from all other *Sylviidæ* by having only ten quills instead of twelve in the tail, is found in the whole of Southern Europe, from Spain to the Caucasus. It has been said to have been killed, but erroneously, in England, and Count Mühle, in expressing his surprise at this, attempts to account for it by attributing it to a deficiency in the development of the wings,—a reason which I think can hardly be maintained, when we hear of much weaker birds flying an infinitely greater distance. It occurs in Sicily, Corsica, Sardinia, Spain, and France, being especially common in winter in the southern provinces of the latter country. M. Gerbe reports its appearance in the department of the Var, and M. Crespon indicates many localities in which it is found in Provence; and Count Mühle found it in Greece. It occurs in Egypt, and, according to Captain Loche, in the three provinces of Algeria. Mr. Salvin says, in the "Ibis," for July, 1859:—"On one or two occasions, among the tamarisk trees on the banks of the Chemore, I caught a momentary glimpse of a bird of this species—not more than was sufficient to recognise it. It appears to be shy and not common in the Eastern Atlas of Africa." Major Irby writes from Gibraltar,—“Resident, and to be found wherever there are bushes and water.”

It is only found in the thickest and most impenetrable coverts of grassy plants, and thick hedges and ditches. It is very shy, more so than any other Reed Warbler: should it chance to climb up on a branch or reed-stem, it is down again the moment it is observed. Its song is rather agreeable, but is heard only from its concealment. The poor bird seems to have a more than usual instinctive knowledge that reasoning man is its enemy. Its call of two syllables resounds continually. When it is pursued, and it thinks the enemy has been led away far enough, it will turn quickly back again to its first place.

It builds its nest in a bush not far from water, and near the ground. It is constructed of dry grass and half-decayed plant stems. It lays four or five eggs, which are brown red, without spots, and as large as those of the Whitethroat.

The Rev. Canon Tristram, in one of the most interesting papers on natural history ever published, namely, his visit to Lake Halloula in North Africa, ("Ibis," vol. ii., first series,) thus describes his meeting with this bird:—"But let us search this coarse grass and tamarisk bed carefully, for here, says my guide, we shall find *Sylvia Cetti*. I had the week before obtained a nest near Algiers, but had no opportunity of watching the habits of the bird. I am again disappointed. The bird has just begun to sit, but has crept away on

the first alarm, and though we watch some time in the neighbourhood she does not return. I take the nest, with its precious contents of four brilliant red eggs, so strangely different from those of every other Warbler. In colour they are unique among eggs, and show no affinity with any allied species. They form a singular exception to the rule that a connexion may be traced in all genera between the eggs of the different species. There is one constant type for all the other aquatic Warblers. The *Saxicolæ*, *Turdinæ*, *Motacillæ*, *Alaudinæ*, *Tyrannidæ*, and others, however widely the extremes may vary, still bear some resemblance to the normal type. Not so with *S. Cetti*. Its affinity seems to be rather with *Prinia sonitans*, ('Ibis,' ii., p. 50,) and may indicate a closer alliance with that genus than has hitherto been admitted. The nest is very loose in its construction, placed in rushes or coarse herbage, its depth more than double its diameter, composed entirely of coarse grass outside and finer stems within, but with no lining of hair or feathers. I afterwards frequently saw the bird, but only for an instant at a time, as it invariably dips among the rushes, and will not take flight when disturbed. I never succeeded in noting its song, if it have one."

In the "Ibis," for July, 1873, Mr. A. B. Brooke, in a most interesting paper on the ornithology of Sardinia, remarks about this bird:—"This is without exception the most difficult Warbler I ever came across, either to see or obtain, although in suitable localities its loud bold song may be constantly heard. They love to secrete themselves in the very middle of the densest and most tangled mass of briars and creepers, and are very shy. On hearing any slight noise they often begin their short rich song, but on the approach of danger steal off rapidly and silently, bursting forth again thirty or forty yards further on, while one is still peering into the bush they were last heard in. They are extremely common in Sardinia, going generally singly or in pairs; and every bush that is thick enough along the river banks, or round the shores of the stagnos, is sure to hold a pair. They prefer wet marshy places; in fact I have never seen them except in the vicinity of water. Round Oristano they are particularly numerous."

Doderlein says of this bird:—"This graceful *Sylvia* is common in Sicily in all marshy places, particularly in the neighbourhood of Syracuse, Catania, and Mazzara, not less than in the humid parts of Lentini and Terra Nova, and in other small lakes and estuaries of the southern parts of the island. The very active Mina came upon it very frequently in the rivulets near Castel Buono, and along the shores of Madonie. Benoit found it in the neighbourhood of Messina,

Syracuse, and along the banks of the river Arceo, as added in his catalogue. I also have collected some individuals in November, 1864, in the reeds of the lake of Mazzara, and more recently others in Anapo and near Terra Nuova. It is generally hidden among the reeds and thick bushes, from which it rises with agility when it is flushed. Gerbe says that it is migratory in Sicily. I rather believe it to be stationary, since according to Mina's authority, and the naturalists of Mazzara, it comes back again in winter to the same places where it nests during the summer. In breeding time this *Sylvia* emits a song which is rather strong and modulated, from which it has received the name of 'Gaduzza.' Its song is also heard in November, when it is more monotonous and less sonorous than in spring. Cara and Salvadori also speak of this species as common and stationary in Sardinia."

The male bird sent me by M. E. Verreaux has all the upper parts of the body a rich chesnut brown, darkest on the wing primaries and the tail. The throat is white, shading off to ash grey on the belly and to olive brown on the flanks and under tail coverts, the latter being tipped with white. The wings are short, only just covering the rump. Beak and feet light brown; iris nut brown.

The female has the colours slightly paler than the male, but they are difficult to distinguish, except by size. Young before the first moult are, according to Degland, of a darker brown than the adult.

My figure is from a specimen sent me by M. E. Verreaux. Figured also by Buffon, pl. enl. 655, under the name of *Bouscarle de Provence*; M. Roux, Ornith. Prov., pl. 212; Z. Gerbe, Mag. de Zool., 1840, pl. 21; Gould, B. of E.

The egg is figured from a nest of three in my own collection, taken near Gibraltar by Mr. Savile Reid.

INSECTIVORÆ.
Family SYLVIIDÆ.
 Genus LOCUSTELLA. (*Kaup.*)

Generic Characters.—Bill of moderate length, slender, straight, compressed, barely deflected at the tip, which is slightly notched; wings long, with the first quill minute; second nearly equal to the third, which is longest; tail moderate, rounded or graduated; hind claw very long, much curved.

RIVER WARBLER.

Locustella fluviatilis.

<i>Locustella fluviatilis</i> ,	GOULD; B. of E., 1836. BONAPARTE, 1838.
“ “	Z. GERBE; Dict., 1848. DEGLAND, 1849.
<i>Sylvia fluviatilis</i> ,	MEYER AND WOLFF; Tasch. des Deuts.,
“ “	(1810,) tome i., p. 229.
“ “	NAUMANN, tome iii., 649.
“ “	TEMMINCK; Man., (1820.)
“ “	VIEILLOT; Dict., 1817.
“ “	SCHINZ; Europ. Faun., (1840.)
“ “	MÜHLE, 1856. Bree, 1st. Edition.
<i>Salicaria fluviatilis</i> ,	KEYSERLING AND BLASIUS, 1840.
“ “	SCHLEGEL; Revue, 1844.
<i>Riverain Fluviatile</i> ,	OF THE FRENCH.
<i>Fluss Rohrsänger</i> ,	OF THE GERMANS.

Specific Characters.—Above unicolorous olive brown, darker on the wings; under tail coverts light rust grey, with white at the end; first primary the longest; wings reach to half the length of the tail. Length of male sent me by M. E. Verreaux, six inches; carpus to tip three inches; tail two inches and one fifth; tarsus nine tenths of an inch; beak seven tenths of an inch.



THE River Warbler, which is one of the finest species in the family, is found principally in Europe on the shores of the Danube. It has also been found, but isolated and rarely, in Saxony, Siberia, Lithuania, and France. Salvadori says its occurrence in Italy is very doubtful. Wright records its capture in Malta. It also occurs in Hungary and Egypt. Its home is in moist meadows and swampy places, where reeds, high grasses, and water-plants afford it concealment. It is migratory, appearing in its breeding places on the banks of the Danube in May, and disappears the end of August. Of its habits, Count Mühle says,—

“By day it keeps in the deepest concealment, and flies away when disturbed with the greatest stillness and velocity, or it hastens from one bough to another, close over the ground. In early morning, however, in the still gloomy twilight, it will remain quite unconcerned, singing on an open branch or twig, and even by day it may sometimes be heard during thunder-storms. While singing, it likes to sit upon a slanting branch, swells out its throat, lets its wings droop somewhat, and with a measured movement sings its remarkable song in quick railroad time, repeated quite twenty times in a breath. This song resembles the chirping of grasshoppers. Upon the very obscure history of its propagation some light has been thrown by Thienemann and Heckel. Its breeding-places are the closely-wooded parts of the banks of the Danube. The nest is always in thick bushes, which have growing amongst them high grasses and reeds. It is formed of withered leaves, mostly of grass, and dry straws, thickly woven over with the young shoots of grasses, so as to conceal it completely from observation. The inside of the nest is cup-shaped, and neatly and solidly lined with small soft grass stems, without any mixture of other materials. The four eggs which Heckel found in one such nest, (Naumannia, p. 17, 1853,) have a conspicuous greyish white ground, with reddish brown spots, some light, others dark, and slight stains scattered over.”

Brehm, in Bädcker's work upon European eggs, gives a still later account of its nidification, which I will quote entire, as everything about this bird is interesting to the naturalist:—

“It dwells, but not numerously, in the high-lying meadows of the Elbe, by Magdebourg and Breslau, and it is plentiful on the shores of the Don, the Bug, and many rivers in Gallicia. It lives in the woods and thick bushes on the banks of rivers. It breeds, according to Count Wodyecki, in Gallicia, and to others in Moldavia, not far from Prague, and on the Elbe. Herr Zelcbor shot a female with an

egg just ready to lay, May 22nd., 1852, and found the nest on the Don not far from Vienna. It builds in bushes which are thickly grown through with reed-grass and *Parietaria officinalis*. The nest is formed of dry reeds and grass leaves, tender twigs, strong grass stems, strips of reed, etc., interwoven with dry meadow grass. It is lined with soft grass. The eggs are four or five, which are greyish, inclining to reddish ground-colour, upon which are indistinct pale violet-grey and darker or lighter spots and streaks of reddish brown, thicker at the base. They are unequally shaped, gently declining from the base to the top."

The River Warbler feeds on insects and flies.

The male in breeding plumage has all the upper parts of the body olive green, shaded with brown; the throat white; under wing and tail coverts, and all the under parts of the belly whitish, shaded with light olive green; the anterior part of the neck mottled with olive green and ash-colour. Primaries, rich brown; first (true) the longest, and the others gradually a little less down to the ninth, giving the wing a long pointed character. This graduated position of the primaries is shewn when the wing is in repose. The beak is dark brown above, light below. Tarsi light yellow; iris, dark brown.

The female has the upper parts like the male; the throat, neck, and crop dirty white, feebly marked with long spots of ashy brown. In autumn the feathers are bordered with ash.

My figures of this bird and its egg are from specimens sent me by M. E. Verreaux.

Figured also by Naumann, Taf. 13; Gould, B. of E.; and Dresser, B. of E.



FALLAS'S LOCUSTELLE.

INSECTIVORÆ.

Family SYLVIIDÆ.

Genus LOCUSTELLA. (*Kaup.*)

PALLAS'S LOCUSTELLE.

*Locustella certhiola.**Locustella certhiola,*

GOULD.

Motacilla certhiola,

PALLAS; Zoog., i., p. 509, No. 141.

Sylvia certhiola,

TEMMINCK: Man., i., p. 187.

" "

BREE; first Edition.

Calamoherpe certhiola,

BLASIUS; Naumannia, 1858.

Bec-fin Trape,

OF THE FRENCH.

Specific Characters.—Beak strong; superior mandible black; the plumage of the upper parts varied with numerous spots; all the quills of the tail are terminated below by a large ashy blotch; posterior claw much curved, and longer than the toe. Length five inches.

THIS bird, closely allied to the Grasshopper Warbler, so well known to the naturalists of Great Britain, was introduced into the European Fauna by Pallas, in his "Fauna Rossica," as *Turdus certhiola*, and was described by him afterwards under the name of *Motacilla certhiola*. It was subsequently introduced into the Manual by Temminck as *Sylvia certhiola*, who has given a very clear description of the bird, and a careful comparative diagnosis between it and our British *locustella*, or, as it is now called, *Locustella œvia*.

It was erased from the European list by Schlegel, and is left out by Degland upon this authority.

It has however recently come to light in that singular island Heligoland, where so many new birds, especially American forms, have been added to the European list. It was found by Herr Gätke,

and has been introduced into the list of Birds new to Europe, described by Professor Blasius, in Naumannia, for 1858, p. 311, in the following words:—" *Calamoherpe certhiola* is a perfect gem in its new plumage; and here for the first time found in Europe. There are two specimens mentioned by Middendorff, as having been killed on the shores of the Sea of Ochotzk. Before these specimens were found, the original from Pallas, in the Berlin Museum, was the only one known."

S. certhiola is no doubt closely allied to *nævia*, both in organization and habit. It is only distinguished by its stronger beak, by the posterior claw being in *certhiola* longer than the toe, and more curved, while in *nævia* the claw is shorter than the toe. Further, the tail of the latter is unicolorous; while in the former, as seen by the specific characters at the head of this notice, each tail quill is terminated below by a large ashy blotch. In all other respects the disposition of colours in the plumage of the two birds is the same.

Since the above was written in the first edition, we have obtained, as might be expected, more information about this bird. Dr. Schrenck ("Vogel Amur-Land") records a capture of this bird by Herr Maaack on the banks of the Schilka, in Upper Amur Land, in the end of May. He observes that the specimen agrees in all material points with Pallas's description, but it differs from Dr. Middendorff's *Salicaria ochotensis*. This last bird has, however, been determined by Cabanis to be the same as the present species, ("Journ. f. Orn.," 1871.) We may therefore fairly consider that Dr. Schrenck's bird, though slightly differing, is the same.

Mr. Swinhoe (P. Z. S., 1863,) describes *L. ochotensis*, which, according to the above definition of Cabanis, is equal to our bird, as a summer visitant to North China, the Amoor, and Japan, occurring in South China only in winter. In the same journal, 1870, he also records its occurrence at Peking, under the name of *L. certhiola*.

There are specimens of this bird from Siberia in the Leyden Museum, which Mr. Blyth says are certainly not the same as the three described as *L. certhiola* by Jerdon; but as that lamented naturalist certainly describes a closely allied species, I copy his description, "Birds of India," vol. ii., part 1:—

"I first found this bird in long grass in the neighbourhood of Mhow, in Central India, during the rains, and Mr. Blyth then considered it to be identical with the European *Locustella Ravi*. He subsequently procured it from Lower Bengal, not far from Calcutta; and I quite recently obtained it near Monghyr, and also observed it in other places along the Ganges, and it probably will be found



1. PALLAS'S LOCUSTELLE. 2. TEMMINCK'S LOCUSTELLE.
3. NORTHERN WREN.
4. WALL CREEPER. 5. DALMATIAN NUTHATCH.

in suitable localities throughout India. From the specimens then procured, towards the end of March and beginning of April, Mr. Blyth was led to doubt their identity with the English bird. On comparing it with Temminck's description of *S. certhiola*, it appears to me to correspond sufficiently well, the pale tip to the tail, one of the distinguishing points of the latter from *S. locustella*, being distinctly present, in which, however, it agrees with the next bird (*Locustella rubescens*.)

This bird frequents long grass and grain, and is with some difficulty procured, as it always tries to conceal itself among the long grass; and when flushed takes but a very short flight, again hides itself, and is with difficulty dislodged. It probably breeds in this country. It feeds entirely on insects."

When the first edition of this work was written very few specimens of this bird were in collections. I am now able to figure a male bird and egg from my own collection. The adult male bird in the June plumage has the upper parts grounded with dark chesnut, beautifully streaked longitudinally with black, particularly on the head, nape, back, and upper tail coverts, less so on the rump. The sides of the head and neck, and all the lower parts, rusty, except the throat and upper part of neck, which are white. Primaries and secondaries hair brown, with a fringe of rufous on each outer web, shafts black. Lower wing coverts, which extend to nearly apex of wing when closed, black brown with rufous border. Tail rufous brown, darker towards distal end, with white apex; first primary very short and abortive, second and fourth about equal, the third longest. Legs and lower beak yellow, culmen and claws black; the female has the colours less pronounced. The notes on the label, taken when the bird was in the flesh, are—"June 10th., 1873. *Dauria aqua*. Length one hundred and fifty millemetres, expanse of wings two hundred and three millemetres, distance of apex of wing from end of tail thirty-four millemetres. Iris, brown."

The bird and egg figured are in my own collection. They were taken in the Dauria by Dr. Dybowski.

The bird has also been figured by Gould, and Dresser, B. of E.

INSECTIVORÆ.
 Family SYLVIIDÆ.
 Genus LOCUSTELLA. (*Kaup.*)

TEMMINCK'S LOCUSTELLE.

Locustella lanceolata.

<i>Sylvia lanceolata,</i>	TEMMINCK; Man., vol. iii., p. 614.
<i>Salicaria lanceolata,</i>	SCHLEGEL.
<i>Cysticola lanceolata,</i>	DEGLAND.
<i>Locustella minuta,</i>	SWINHOE.
“ <i>subsignata,</i>	HUME; Stray Feathers, No. 5, p. 409.
<i>Bee-fin Lanceolata,</i>	OF THE FRENCH.
<i>Gestrichelter Rohrsänger,</i>	OF THE GERMANS.

Specific Characters.—Beak short and thick; tail rather long and very conical; all inferior parts, except the middle of the abdomen, covered with long lanceolated spots.—(TEMMINCK.) Length four inches and one fifth; wing two inches; upper beak two fifths of an inch; tarsus three tenths of an inch; tail one inch and a half. From a specimen in the collection of Canon Tristram, marked “Amoy, 18th. May, 1861, R. Swinhoe.”

THIS Warbler was first described by Temminck, in the third volume of the “Manual,” p. 614, and in respect to the memory of that great ornithologist I attach his name to its English designation.

Doubts were thrown by Malherbe over the authenticity of the specimen, said to have been killed near Mayence, upon which Temminck introduced it into the European fauna, as well as upon the specimen in the collection of the Marquis Durazzo, said to have been killed near Genes. There is no doubt, however, from specimens in the Leyden Museum, that this bird is found in South-eastern Russia, and would probably be more frequently captured were it not



for its grasshopper alliances and small size, both of which qualities keep it out of the specimen-hunter's sight. It is mentioned by Degland as occurring in Siberia as well as in South Russia, and the bird I figure is from China, while the egg is from South Siberia. It is not mentioned by Jerdon, although we might expect it to turn up in a country so well worked, and accordingly we find Mr. Hume describing it as a new species in the fifth number of "Stray Feathers," under the designation of *Locustella subsignata*. Mr. Hume's bird was shot in the Andaman Islands, in the neighbourhood of Port Blair, by Mr. Davison. Mr. Hume's measurements are slightly larger than Mr. Swinhoe's, but the description leaves no room for doubt. Mr. Swinhoe counts the bastard primary as the first, while Mr. Hume leaves it out, which makes the second true primary in Mr. Hume's bird and in ours the longest in the wing. Mr. Davison's account of the capture is worthy of transcribing:—"I found this little Locustelle frequenting the same places as *Cyanecula cærulecula*, Pallas, namely, the dense scrubby weed growing about the dried-up paddyfields; I also on two occasions saw it in a garden in a patch of beans, and once I flushed it from a patch of sugar-cane. It is an awful little skulk, and will let itself be almost trodden upon before it will rise. It makes its way rapidly through the tangled weeds, and runs along the ground in a truly surprising manner. In walking through the woods I have on several occasions seen this little bird start up and run rapidly along the ground. I am unable to say whether it is a permanent resident at the Andamans or not."

Mr. Swinhoe, in the P. Z. S., for 1863, describes the discovery of this species there under the heading of *Locustella minuta*, as follows:—"This again is allied to the *L. Raii*, but is a very diminutive species, strongly marked and spotted; it may perhaps turn out to be a resident species in South China. I have one shot at Amoy on the 18th. May, 1861, and Captain Blakiston procured a pair in Canton in October. The Canton birds are strongly washed with yellow, and are therefore, I presume, birds of the year. Length 4.7; wing 2.15; tail 1.6, the feathers much graduated; tarsi 0.65; bill, along culmen 0.38, to gape 0.6. Bill blackish brown on the culmen and the small apical part of the gonys; the rest of it, and inside of mouth, pale yellowish flesh-colour; legs and toes large and thick; claws thin and pointed; hind claw long and Pipit-like: all of a deep brownish flesh-colour, with paler edges and soles. First quill diminutive; second one-twelfth shorter than third, which is longest; colouring similar to *L. Raii*, and perhaps as variable, according to the state of its plumage."

The measurements above are evidently, when compared with mine,

from the bird in the flesh. It is quite possible that they were both taken from the same specimen!

Mr. Canon Tristram tells us it is a typical Locustelle, and we will therefore assume that its habits are very similar to our own Grasshopper Warbler.

A beautiful specimen sent to me by Mr. Tristram has the upper parts of an olive green, covered with vertical elongated patches of dark brown, narrow on the head, but broader on the back. Primaries hair brown, tinged with the general olivaceous groundwork, and the secondaries broadly margined by light brown. Upper tail feathers unicolorous with the ground of the back. Below the chin and centre of the abdomen are greyish white; the crop, flanks, and sides of neck covered by small elongated spots on a light grey ground, darker than flanks. Wings beneath bluish grey; under tail coverts light rusty. Legs light brown; beak same, upper mandible darker. Claws long, hind claws two-thirds size of toe and strongly curved.

I believe this bird is now figured for the first time as a European species. Through the kindness of Canon Tristram I am also able to figure the egg of this bird, taken by Parren and Dubrousky near Lake Baikal. It is almost exactly like that of our own Grasshopper Warbler, but considerably smaller, proving Canon Tristram's opinion that this bird is a typical *Locustella* to be correct.

Since the above was in type, Mr. Dresser has figured but not described this bird. He terms it the "Lanceolated Warbler," and the figure is a very good one.



INSECTIVORÆ.

Family TROGLODYTIDÆ.

Genus TROGLODYTES. (*Vieillot.*)

Generic Characters.—Bill moderate, compressed, slightly curved, without any notch, and pointed. Nostrils basal, oval, partly covered by a membrane. Wings very short, concave, rounded; the first feather rather short, the fourth or fifth feather longest. Tail variable in length, but generally short, its feathers soft and rounded. Feet strong; the tarsus rather long; the middle toe united at the base to the outer toe, but not to the inner toe; hind toe rather long; claws long, stout, and curved. Body plumage long and soft.

NORTHERN WREN.

Troglodytes borealis.

Specific Characters.—Darker in colour, and with the under parts more strongly barred; beak stouter, and legs and feet much stouter than in the Common Wren, *T. parvulus*. Tarsus 0.88, hind toe with claw 0.68, against tarsus 0.6, and hind toe with claw 0.55. Soft parts as in the Common Wren. Total length about four inches, culmen 0.65, wing 2.1, tail 1.5, tarsus 0.88.

THIS is a large variety of the Common Wren, and has arrived at that period of "evolution" when systemizers consider it has a right to specific distinction. It is, as far as at present known, an inhabitant of Iceland and the Faroes exclusively. It is rare in Iceland, but is more common in the Faroes. According to Fischer ("Journal für Ornith.," 1861,) it frequents the neighbourhood of homesteads, and is protected by the inhabitants.

Captain Fielden has given us, in the "Zoologist," the best account of this interesting little bird, from which I copy the following:—

"This species of Wren is spread throughout the Faroe Islands,

abundant in those parts where there are no rats nor mice, and consequently where cats are not encouraged; but where the cats are numerous you may look in vain for this sweet songster. I made my first acquaintance with it on the island of Skuæ on the 23rd. of May. They are to be seen about the village in considerable numbers, running in and out of the chinks between the stone-built cottages like mice, then alighting on the grass roofs, and with outspread wings and swelled throat pouring forth a stream of melody far exceeding that of *T. parvulus*. As soon as it was known that I wanted 'Mousabrouir' nests and eggs, a brisk search commenced, boys, girls, and women aiding it. I was taken from outhouse to outhouse to look at nests; all were exactly alike outwardly—a firm structure of hay, next a lining of moss, then a snug bed of down and sea-fowl feathers. All the nests I saw were placed in the same position, viz.: between the blocks of stone of which the outhouses are built, the entrance to the nest invariably facing inwards. I examined seven or eight nests in this village: one only had eggs, the rest had young two or three days old. On the island of Great Dimon I found the Wren numerous, and discovered its nest in a cave close to the landing place, far away from the habitations of men. At Porkerū, on the 30th. of May, 1872, I noticed a brood of five following their parents in and out of the boat-houses. In the northern islands it is abundant. In Swinoe, on the 7th. of June, I saw a brood following their parents, who collected them together with a chirp, and then fed them with insects that they had picked out of the gutter. The same day I put my hand into a nest, and drew an old one out of it; it flew a few feet from me, perched on the gunwale of a boat, and broke out in a merry song. Before I left the boat-house the Wren returned to its nest. When I staid at the Pastor's house at Videroe, I was awakened in the morning by the song of this bird close to the open window, so loud and so melodious that no one could help noticing the difference between its note and the more feeble efforts of our Common Wren."

The egg is considerably larger than that of our bird, measuring, according to Dresser, $\frac{28}{40}$ by $\frac{20}{40}$ to $\frac{29}{40}$ by $\frac{22}{40}$ inch, but do not differ in colour or markings.

The bird and its egg figured by me are from specimens lent to me by Mr. Dresser. The bird has been well figured in his "Birds of Europe," and also by J. C. H. Fischer in "Journ. für Orn.," 1861, pl. 1.

There is a Wren smaller than our English bird, found in Italy, to which Salvadori has given the name of *Certhia brachydactyla*. It differs from *C. familiaris* in "the deeper colour of the upper parts,

the white of the inferior parts being less pure, the lesser size and distinctness of the infraorbital white mark, the claw on posterior toe being shorter, and the beak being generally larger." It has the same habits as *familiaris*, and is common through all Italy, in the plains as well as mountains. Doderlein says it is common in Sicily, and not found in Sardinia and Malta. Blasius did not admit the specific value of these differences.

With this bird I close my list of the European species of the family *Sylviidæ*. The progress of ornithological discovery in modern days, however, renders it probable that the number will be considerably increased, as every single well-authenticated case of the capture of a bird within the European limits is held sufficient to constitute it a European species by modern writers. I hope to see this system some day altered by the multiplication of such excellent memoirs as those of Tristram and Salvin in the "Ibis," by which our knowledge of geographical ornithology will be much increased, and our boundary species placed in their respective habitats. It must at the same time be borne in mind, as our geographical divisions are entirely arbitrary, so is it impossible to draw a distinct line between the species of one quarter of the globe and another, and yet the faunæ are sufficiently distinct to afford a remarkable illustration of the adaptation of species to climate and country.

ANISODACTYLI.

Family *CERTHIIDÆ*. (*Bonaparte.*)Genus *TICHODROMA*. (*Illiger.*)

Generic Characters.—Beak very long, slightly arched, slender, cylindrical, angular at its base, and depressed at its point. Nostrils basal, naked, pierced horizontally, half closed by an arched membrane. Feet with three toes in front, the external attached at its base to the middle toe by a membrane; the hind toe carrying a very long claw. Tail round, with the shafts of the quills feeble. Wings with the first primary short, the second and third tapering, the fourth, fifth, and sixth the longest.

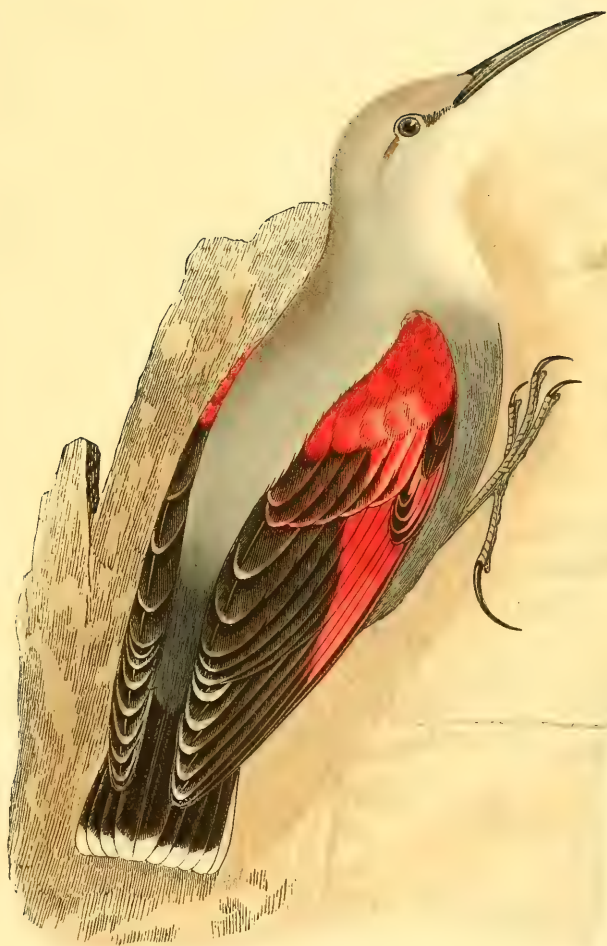
WALL CREEPER.

Tichodroma muraria.

<i>Tichodroma muraria</i> ,	ILLIGER.
“ <i>alpina</i> ,	KOCH.
“ <i>phænicoptera</i> ,	TEMMINCK.
<i>Certhia muraria</i> ,	GMELIN.
<i>Tichodrome echelette</i> ,	OF THE FRENCH.
<i>Gemeiner Mauerläufer</i> ,	OF THE GERMANS.
<i>Picchio murajolo</i> ,	SAVI.
<i>Alpen Mauerfläuser</i> ,	OF THE SWISS.

Specific Characters.—Two round spots on the inner web of the first four true primaries, and one upon the fifth; the basal half of all the true primaries, except the first, and of the secondaries rich crimson. Length six inches and a half; carpus to tip three inches and three quarters; tarsus nine lines; hind toe and claw one inch; beak one inch and one fifth.

THIS beautiful bird, so well known to the alpine traveller, is common in Switzerland, Spain, and Italy. It is a southern bird, frequenting the rocky parts of the warmer countries of Europe. It is found in France and the south of Germany, and is not rare in the



RED-CAPPED MANAKIN.

highest Alps in the Tyrol. It occurs also in Bohemia and Silesia, and is included by Count Mühle among the birds of Greece, and hence it ranges to India, being mentioned by Dr. Leith Adams as occurring in Cashmere, by the sides of rivers and streams in rocky and precipitous places.

It does not appear ever in flocks anywhere, being generally found solitary or in pairs. When the rough weather of autumn sets in, it is driven from the high mountains, and appears about the valleys and mountain towns during the winter months. In the spring it again gradually mounts up until it settles for breeding purposes among the highest rocks of the mountain top.

Wherever it is seen, whether in mountain, or valley, or town, it is always found among rocks, running up and down their perpendicular faces, and peering into every nook, cranny, or cleft for its insect food.

In its habits the Wall very much resembles the Tree Creeper, being lively, restless, and shy on the approach of man. It clings with great tenacity to perpendicular or horizontal rocks. It runs upwards with great dexterity, but does not, like the Woodpecker, run downwards. After a short rest it flies down from the top of even the highest towers, and then re-commences its upward ramble. It does not appear to use its tail as a *point d'appui* like its congeneric species, but goes with a low spring from one rough spot to another, until it gets to the top, when it flies down again, and so on for a whole day. It is not seen on the ground.

Naumann tells us the Wall Creeper is unsociable and quarrelsome with its kind, and hence it is always solitary. Even the young separate early. The call-note is said to be similar to the Bullfinch, and it has also a shorter note when running up the walls, in which the short strope di, didi, zaa, is often kept up with very little variation. Both male and female sing, and during the performance they raise their bodies, and move their wings and tail, or flutter them upon the rocks.

It feeds on insects and their larvæ and eggs, spiders, ants, etc., all of which it pokes out of the crevices with its long curved beak.

It builds in high places which are very difficult to get at—in chinks of barren rocks, or in the holes of walls and old buildings or towers. Little indeed was known about the nidification of this bird until about ten years ago, when Nager-Donazian, of Unsen-Thale, discovered the nest and eggs, and supplied his friends with specimens, of which a true description was first given by the Baron von König, in "Cabanis' Journal für Ornithologie," for 1855. The nest is built

of an underlayer of soft dry stalks, mixed with moss, hair, soft feathers, and wool, and is lined with animals' hair. It lays from three to five eggs in June, which are either pear-shaped or more generally oval. The shell is slightly shining white, with small red or flesh-coloured spots and dots, which are most numerous at the larger end. They are about the same size as those of the Wryneck.

I copy the following interesting account of this bird in confinement from the article by Victor Fatio, in the "Bulletin de la Société Ornithologique Suisse," tome premier, 1865, p. 126, being a summary of the experiences of M. Girtanner:—"The spring moulting of one of these birds kept in a cage by M. Girtanner took place between the beginning and end of March, and the autumn was a little later than that of the bird in the wild state, which takes place between the end of July and the middle of September.

"The young birds, which soon quit the nest, may be recognized in summer by a reddish tint which overspreads the grey on the top of the head, and the throat, which is quite grey; but in September they take the white throat like the adult. The round spots, white or yellow, found on the remiges, have no characteristic value as to the distinction of ages and sexes, for they are always and everywhere variable in number and disposition. One thing only seems certain, viz.: that all individuals possess white spots from the second to the sixth remige, and at least some traces of yellow spots from the sixth to the fifteenth. The black extends in the spring upon the throat from the centre to the periphery, and the white reappears on the contrary in autumn *vice versa*.

"The Tichodrome, which only in Europe inhabits temperate or southern climates, rises in summer to the height of ten thousand feet in our Alps, to redescend sometimes to our lowest valleys during the severity of winter. Early in the evening it seeks for the hole which must lead to its shelter for the night, but it only approaches it with great circumspection, and taking many precautions that no one shall see it enter. Once hidden, it generally settles itself flat upon its belly, and remains thus till very late next morning. It seems to wait till the sun has perfectly dried the damp surface of the rock in fear of dirtying its tail, which it keeps from touching the rocks as much as possible, or its wings, which perhaps, when wet, would not be a sufficient help to its feet. All the Alpine world has long been awake and in full activity when the Tichodrome issues from its retreat, and after the manner of a Nuthatch, without stopping, hovers over the bare sides of the rocks. It prefers climbing the vertical rocks, and with a continual beating of its wings, and

emitting from time to time feeble flute-like sounds, it seeks for all the small insects which repose in the crevices of the rock. In ascending it so disposes its wings that the remige raised behind can always strike the inferior column of air, and raise it without an effort; its feet seem then to be only designed to conduct it along its path, and maintain it on the surface.

"The Tichodrome is so good a climber that there is not a surface too polished for it to mount—only the greater the difficulty, the quicker is the wing movement. From time to time it quits a spot to fly like a butterfly towards some other spot on the same surface; at other times it lets itself fall vertically to the bottom of the rock of which it has just attained the summit, and immediately recommences its ascension. They are rarely seen in pairs, except at nesting time. It appears to fear the society of all other birds.

"According to Baron König von Warthausen there has been a great deal of fable for a long time mixed up with the history of this bird's habits. He mentions that Cramer says that it nests even in trees and human skulls. M. D. Kœnig, however, gives us an excellent description of the nests and eggs.

"M. Girtanner, now taking up his history of his own bird, explains to us how the Tichodrome swallows the insects which constitute its food. It cannot employ its tongue, like the Woodpeckers, by exertion, nor can it seize its prey with the end of its beak. Furnished like the Hoopoe, with feet long and slender, and a tongue which is short and thick, it must, like it, after having pinched the insect and placed it in a right direction, by working it from right to left, make it progress towards the mouth by shaking its head repeatedly backwards and forwards. It cleans its beak regularly every time it has swallowed a fresh insect.

"In winter the nourishment of the Tichodrome consists of eggs and larvæ of insects, or even dead insects. M. Girtanner began by giving his bird mealworms, of which it took seventy or eighty a day; but at last he succeeded by degrees in inducing it to take ants' eggs, which seem to agree with it perfectly. He was more fortunate in this than Professor Sprüngly of Zurich, who was the only one who had previously tried to keep one of these birds alive, and who could not succeed for want of proper nourishment. The Tichodrome does not like water, for the Doctor only saw his captive drink it once, and then it shook itself for a long time after, as if to get rid of every feeling of damp. The particular enemies of this bird are the small falcons, from which, however, it often escapes by throwing itself rapidly into the first crevice it can find.

"I received on the 12th. of November, 1864, a letter from St. Gall announcing the death of the poor bird. It caught cold during two consecutive nights when the thermometer was three or four degrees below zero, which brought on effusion into the chest, of which it died on October 13th., 1864. M. Girtanner remarked, that if this bird succumbed to a less cold temperature than that which it often bears in freedom in the Alps, the reason was that it had not sufficient room to take exercise, but also that it could not find in its cage, which was hung in the open air, crevices sufficiently deep to furnish it either with a shelter from the air or a medium temperature more comfortable."

Director Surgeon-General Stewart informs me that this bird is found in the Himalayas at all seasons, but is by no means a common bird. It is a winter visitant to the Punjaub. "I noticed a pair of them scrambling about the mud walls of some huts on the field of Goojerat, February 21st., 1849, and apparently they were not in the least disconcerted by the furious cannonade going on then and there. I may mention also that at the battle of Chillianwalla, January 13th. of the same year, I saw numbers of *Turdus atrogularis* flying here and there amongst the thickest jungle of that field, but they did not seem to enjoy the firing much."

Salvadori ("Fauna d'Italia") says of this bird:—"Found in Italy on the tops of the Alps and Apennines, and also on the mountains of Sardinia and Sicily, where, however, it appears to be rare. Not found in Malta. It comes down from the mountains in winter, and then it is not rarely seen in the plains. It frequents the walls of cities and old castles. A pair were once seen on the walls of the Palace of Science, in Turin, for some days. It feeds upon insects and spiders, which it searches for in the chinks and clefts of rocks and walls."

The male in breeding plumage has the top of the head, rump, and under tail coverts, blackish grey; nape and back grey; cheeks, throat, and front of neck deep black; abdomen black; the under tail coverts tipped with white; wing coverts and basal half of the external web of the wing feathers of a deep crimson; the rest of the feathers blackish brown, with two large round spots on the internal web of the first four true primaries, and one on the fifth. Secondaries tipped with white; tail black, with the two most external quills broadly terminated with white, and the others more narrowly with grey. Beak, feet, and iris, black.

The male in autumn and winter is of a distinct grey above, with a slight russet colour on the head; the throat and chest white,

slightly tinged with the same; the dark parts of the abdomen are less deep than in spring.

The female resembles the male in winter plumage.

The young of the year have the primaries and tail quills tipped with grey, and the colours above and below less pure than in the adult. After the first moult the two sexes and the young are alike in plumage.

My figure is taken from a skin in autumn plumage, killed at Geneva, and kindly sent me by Mr. Tristram. The egg is from a specimen sent me by Dr. Crowfoot, of Beccles, who obtained it from Switzerland. It is a good example of the more spotted specimens.

The bird has been also figured by Buffon, pl. enl. 372, fig. 1 male in spring, fig. 2 male in autumn, given as the female. Roux, Ornith. Prov., pl. 238; Bouteille, Ornith. du Dauph., pl. 37, f. 4; Naumann, Vogel Deutschlands, pl. 141, male in summer and winter plumage; Gould, B. of E., pl. 239; Dresser, B. of E.

INSECTIVORÆ.

*Family CERTHIIDÆ. (Bonaparte.)*Genus SITTA. (*Linnæus.*)

Generic Characters.—Beak straight, medium size, cylindrical, conic, double edged at the point. Nostrils basal, rounded, and partly hidden by hair and short feathers. Tongue short, pointed, and horny. Feet with three toes in front and one behind, the outer being joined at its base to the middle one; the hind toe very long, and armed with a long curved claw. Wings medium size; the first quill very short, the second shorter than the third or fourth, which are the longest in the wing. Tail composed of twelve quills, short, flexible, and square at the end.

DALMATIAN NUTHATCH.

Sitta syriaca.

<i>Sitta syriaca,</i>	EHRENBERG. BONAPARTE. GRAY; H. L., No. 2485.
“ <i>neumayeri,</i>	MICHAELLES.
“ <i>rufescens,</i>	GOULD.
“ <i>rupestris,</i>	TEMMINCK; Man. 3, p. 287.
“ <i>saxatilis,</i>	SCHINZ.
<i>Sitelle de Syrie,</i>	OF THE FRENCH.
<i>Syrisehe Spechtweise,</i>	OF THE GERMANS.

Specific Characters.—Flanks and under tail coverts russet, the latter not spotted with white; tail unicolorous slaty blue, the most outward feathers slightly tipped with pale russet. Length six inches and two fifths; carpus to tip three inches; tarsus one inch; beak eleven lines.

THE Dalmatian Nuthatch is an inhabitant of the country from which its English name is derived. Passing along the shores of the Adriatic we find it in the Ionian Islands and Greece commonly. Thence we



DALEA A. COLONY

trace it to Smyrna, and along the shores of Asiatic Turkey to Syria, where it is very common, that country also giving its specific and French name. Dr. Leith Adams informs me that it is pretty common in Affghanistan.

The three European Nuthatches form an interesting illustration of the adaptation of structure to climate of nearly allied species. The present bird is very much larger and stronger than the European form. As will be observed farther on, its habits differ, inasmuch as it does not frequent trees, but rocks and ruins. The northern form and that which inhabits Britain are so closely allied to each other, that the best ornithologists have denied, and I think with good reason, their specified distinction. But the three birds have all a strongly-marked character in common. The coloration varies, but it is disposed after the same plan, the blue slate back, and the dirty white or russet abdomen, and the characteristic black mark on the side of the head of each. These are instances in which there can be no objection urged as to the possibility, or rather the strong probability, of a common origin. But then we have no evidence of the stronger bird in the south, or the weaker one in the north, diverging into any different forms. The variation is adaptive and final, and the species or varieties are constant.

“Few birds,” says the Rev. H. B. Tristram, in his account of the Birds of Southern Palestine, (Ibis, vol. i., p. 27,) “have interested me more than the Dalmatian Nuthatch. I had good opportunities of observing its habits in the south of the Morea in winter, and I encountered it again in the hill country of Judæa. Unlike our species it is confined to the most barren and rocky regions, and runs up and down the stones with wondrous agility, descending head downwards, and then by a sudden bound flying to the foot of the next rock, which it climbs and runs down after the same fashion, searching the crevices as it goes for small beetles, with which the stomach of those I examined were filled. In summer and winter alike they were always in pairs, never (as *Sitta europæa*) in small flocks. The note is louder than that of our species, and much resembles the call of the Spotted Woodpecker.”

The following account given by Lord Lilford, in his descriptions of the birds observed by him in the Ionian Islands, (Ibis, vol. ii., page 232,) is somewhat different:—“*Sitta syriaca* is common in certain localities in Epirus, particularly amongst the stony and precipitous hills near Santa Quaranta, where I have frequently observed it in small parties of five or six, flitting about and busily examining the holes and crevices of the rocks. It is a lively and restless bird, and

has a note entirely different from that of the Common Nuthatch. I never observed this bird to perch on a tree or shrub, but almost invariably found them on the most exposed and barren hill sides."

Mr. W. H. Simpson has also some interesting remarks about this bird in his "Ornithological Notes from Missolonghi and Southern Ætolia," (Ibis, vol. ii., p. 289.)—"On the opposite side of the same stone was a nest of that most eccentric bird, *Sitta syriaca*; it had been repaired once or twice, but at that period was not inhabited. The nest was plastered over the mouth of a small cavity, and, were it not for the little round entrance hole, would be very difficult to distinguish from the numerous structures of a species of ant which are thickly stuck over the face of the rock, and at a distance resemble in size and appearance the nest of *Sitta syriaca* itself. But the greatest curiosity of all was to be seen under a large flat slab, which projected enough to afford convenient shelter during a shower of rain. This was a nest of *Hirundo rufula*, which had been broken at one end, and consequently abandoned by the bird. Meanwhile a Nuthatch had come and repaired the damage, possibly with the intention of appropriating the nest. The difference in the workmanship, and to a certain extent in the material, was very apparent when taken in juxtaposition. In shape the nest of *Hirundo rufula* is so different from that of any other European bird, that this proceeding on the part of the Nuthatch was still more extraordinary."

I copy the following from Count Mühle's "Beitraege Zur Ornithologie Griechenlands," p. 50:—"This is a bird which by many of our naturalists is only considered to be an acclimatized variety of the common *S. europæa*; but it is certainly a distinct species. It lives only on the rocks, never in woods, and remains willingly about old Venetian fortresses, where it constantly glides in and out of the shot-holes. When it settles upon a rock, it likes to suspend itself with its head downwards, and hops off by fits and starts. It seeks its food on trees that are frequented by Coleoptera, such as the bread fruit, or *Cactus opuntia*. It builds its nest on the rugged rock walls under the natural roof of an overhanging rock, usually on the east or south side—never on the west. It is very large outside, and skilfully built with clay, eleven inches long from the entrance. It is lined with the hair of bullocks, dogs, goats, or jackals. It is always on the outside woven together with the seeds of *Chrysomela graminis* and *Trichodes antiquus*. It is usually so compactly made, that I was obliged to separate one with a chisel. This nest had been used many years. The bird is very lively, restless, and inquisitive. The young are easily tamed, and become very confiding; they may be fed upon bread crumbs, but in a

cage remain always on the ground, and will not perch. The families remain long together, and the young are taught by their parents all about catching insects."

The following interesting account of the nidification of this bird is translated from the Italian of the Marchese Oratio Antinori, and is inserted in "Naumannia," for 1857, page 429:—

"This pretty little bird enlivens with its cheerful note the highest and most lonely part of the Anatolian mountains, where it generally remains. Sometimes, however, it comes down into the plains, where it is especially seen on the rocks surrounding mountain torrents, or on the walls of old buildings. It builds its nest the last days of March, and the beginning of April; and for this purpose it chooses a rock or ruined wall, where among the projections it can be sheltered from the rain. It is easy to observe with what caution this bird makes choice of a locality, for before it finally resolves to build its nest in a particular spot, it places some of the materials, which consist of resinous substances mixed with feathers, hair, rootlets, thread, or wool, in several different places. This is evidently done to satisfy itself, not only that it may not be discernible to others, but that it may be impervious to wet, and sufficiently firm a foundation to last many years. Indeed it would be quite impossible to move the nest of *Sitta syriaca* from the place to which it is fastened, nor could it be distinguished from the parts to which it is attached, were it not that the dark shades of the entrance hole sometimes reveal its existence. One which I recently found near the town of Magnesia, on a commanding rock, had a diameter of ten inches, and very nearly six in depth. The upper wall was three inches thick, and the sides and under wall about four fifths of an inch, while the depth of the neck and entrance hall was two inches. The weight of the whole was upwards of five hundred drachms, (sixty-three ounces!) allowing for that part of it which I could not cut away from the rock. It is quite clear that this bird cannot build every year a new nest so large and heavy, but that it must last a long time, even for a whole life. Round the hole, which is chosen for the building of the nest, and also over the nest itself, is a quantity of resin, which is mixed with the other materials, and with earth. This resin it gets especially from *Pistacea terebinthus* and *lentiscus*. When melted by the warmth of the sun, it runs down and the nest gets a very firm hold of the rock, and will bear a great weight.

Having mixed together feathers and fibres with clay and cement out of the water, to which hairs and threads are sometimes added, it shapes its nest in the form of a flask, with a round opening of one

inch and one fifth in diameter. The inside of the nest is more regular than the outside, but not very smooth, both having throughout a granular surface, which is covered by the small pieces of earth stuck one above another. The outer side differs also from the inner, in being covered with resin and a red sticky mass, perhaps taken from the poplar. When this is melted by the sun it not only makes the whole impervious to wet, but makes it in appearance similar to the wall on which it is placed. It is not possible to examine this structure without being struck with its beauty and adaptation. The inside is lined with feathers, wool, and threads. It lays five or six eggs."

The eggs are larger than those of the Common Nuthatch, four or five in number, slightly elongated, white, with pale brick-red spots, principally at the larger end.

The male and female are alike in plumage. All the upper parts are of a slaty blue; the ends of the closed wings being rich hair brown; the throat, sides of the head, and chest white; abdomen, flanks, and under tail coverts russet; from the angle of the jaws, through the eyes and ear coverts, and extending to the scapularies, is a distinctly defined black band; tail feathers brown, with their ends slightly tipped with russet. Beak and feet black.

My figure is taken from a specimen shot on February 22nd., 1858, on Mount Taygetus, and kindly sent me by Mr. Tristram. The egg is from my own collection, and was taken by Dr. Krüper in Greece.

The bird has also been figured by Bonaparte, Faun. Ital., pl. 26, f. 2, and Gould, B. of E., pl. 235.

I do not consider it necessary to give a figure of the Asiatic variety of *Sitta europæus*, namely, *S. uralensis*, Lichtenstein, *S. sericea*, Temminck, as I do not find any specific distinction between the two forms. *S. uralensis* is found in the Caucasus and Siberia. By Pallas it was denominated *S. europæa*, var. *sibirica*. The only asserted difference given by authors is that the flanks are not rufous, as in the Common Nuthatch. This is very much the same as making two human beings of different species, one of whom had flaxen and the other red hair.

Since the publication of the first edition Mr. Dresser has separated the bird above mentioned from the species hitherto known as *S. europæus*, changing the name of the latter to *cæsia*, and restricting the term *europæus* to the northern form. I still maintain that there is no real specific difference in the two forms. The northern race has more white upon its abdomen and less rufous, but as Mr. Dresser himself remarks, "the habits and mode of nidification closely assimilate to our

Common Nuthatch," and "the eggs of this species are similar to those of *Sitta cæsia*." Surely it was not worth while to create confusion by changing the names of these varieties, or of erecting them into different species.

GRANIVORÆ.

Family PARIDÆ. (*Bonaparte.*)Genus PARUS. (*Linnæus.*)

Generic Characters.—Beak short, straight, strong, conical, and compressed; edges sharp and pointed, the base furnished with a few stiff hairs; nostrils basal, round, and covered with reflected bristly feathers. Feet short, with three toes in front and one behind, entirely divided to their origin; hind toe the strongest, and armed with a long hooked claw. Wings, the first primary very short, the second much shorter than the third, the fourth, fifth, and sixth about equal in length, and the longest in the wing.

SOMBRE TIT.

*Parus lugubris.**Parus lugubris,*

“ “

“ “

*Pæcilia lugubris,**Mésange lugubre,**Trauermeise,*

NATTERER. TEMMINCK.

BONAPARTE, 1838.

SCHINZ. SCHLEGEL.

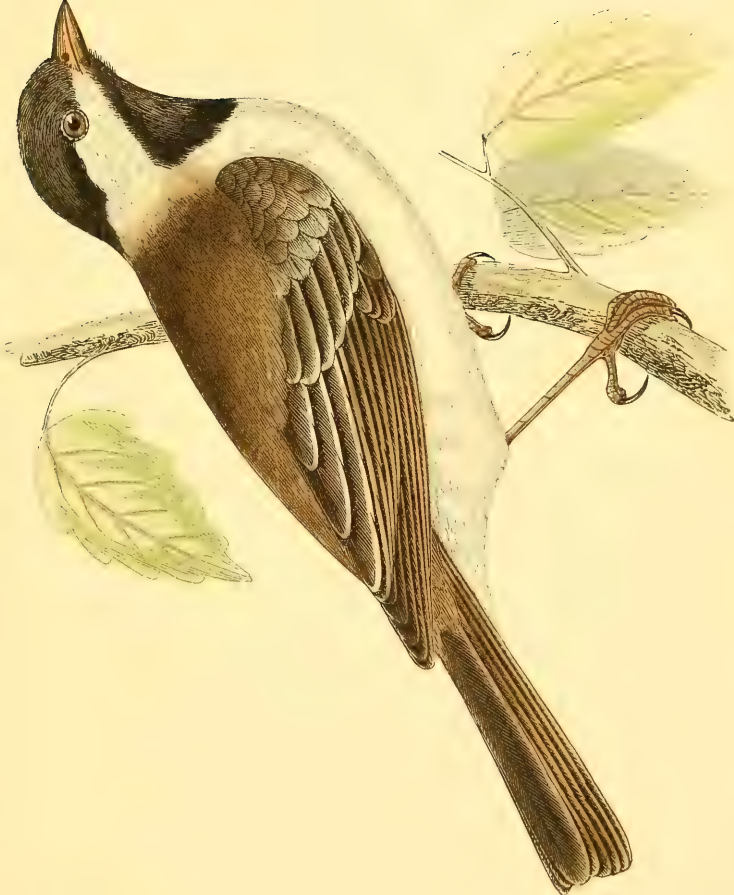
KAUP. BONAPARTE, 1850.

OF THE FRENCH.

OF THE GERMANS.

Specific Characters.—Top of the head, nape, and throat brownish black, separated by a broad white band extending from the gape to the nape, and increasing in width from before backwards. Length five inches and three tenths; carpus to tip of wing three inches; tail two inches and a half; beak from gape three fifths of an inch; tarsus nine tenths of an inch.

THE Tits are a very well-marked family. In disposition of colours, in form, and habit, they very much resemble each other, in whatever part of the world they are found; and yet almost every species is, by some author or other, placed in a separate genus. Thus in the



SCENERY. FIG. 1.

present family we have the original genus of Linnæus, *Parus*; then we have Leach separating those with long tails into the genus *Mecistura*, and those with a beard into that of *Calamophilus*. Not satisfied with this innovation, Boie calls the last genus *Mystacinus*, and Vigors places the Little Penduline Titmouse, which I shall figure and describe by and bye, in the genus *Ægithalus*; while Brehm places the same bird in a genus created for its especial use, that of *Pendulinus*. Then we find that great innovator, Kaup, placing the Crested Tit in the genus *Lophophanes*, and the Marsh, Sombre, and Siberian Tits in the genus *Pæcilia*, while for the Azure Tit he creates the genus *Cyanistes*, in all of which he is followed by Bonaparte.

This uncertainty arises no doubt from the different conceptions by naturalists of what really constitutes a genus. As I believe, with Agassiz, that genera are natural groups of a peculiar kind, separated from each other by ultimate details of structure, I shall consider the family of Tits as coming within this definition, and therefore as belonging to one genus only, with the exception of the Long-tailed and Bearded Tits, which may fairly be placed in distinct genera: the latter does not come within the scope of this work. It is remarkable how modern naturalists have lost sight of the *thoughts*, by which (it is clear, as pointed out by Agassiz,) our old classifiers were influenced in the formation of orders and genera; the consequence of this is that every few years we have a new nomenclature, founded on the assumption that the previous one was based upon erroneous data.

Upon this all-important subject the reader will find some excellent and judicious remarks in a paper by Mr. Stimpson, quoted from Silliman's "Journal," in the "Edinburgh New Philosophical Journal" for October, 1860. I will only here make one extract:—"The restoration by G. R. Gray, of Boddaert's names in ornithology is another instance. By the discovery of a meagre pamphlet of the eighteenth century, only two or three copies of which now exist, we find ourselves forced to change the generic names of common birds, familiar as they are by long and constant usage." This pamphlet has been lately republished with all its errors.

The Sombre Tit is an inhabitant of Dalmatia, Hungary, Greece, and South Russia. According to De Selys, it also occurs in Switzerland. It is found in Palestine and Turkey. Temminck says that it is never found in Austria, nor in fact in any part of Germany.

In the distribution of colours about the head and neck this bird is very similar to *Parus sibiricus*, with which it has been indeed considered identical by Keyserling and Blasius, without, however, I

think, either due consideration or comparison of specimens. *P. lugubris* is altogether a larger bird, the beak and tarsi are stronger and larger; and while the abdomen is white and the back grey brown in *lugubris*, the former is russet, and the latter mottled with russet and black in *sibiricus*. A reference to the two figures will render this quite clear.

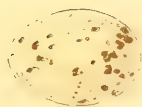
Temminck says it is easy to confound the Sombre Tit with the Nonette or Marsh Tit; but it is quite certain that he referred to the *Parus atricapillus* of Gmelin, which is a North American bird, altogether differing from our well-known Marsh Tit, with which the present species can in no way be confounded.

Salvadori, "Fauna d'Italia," says of this bird:—"This species differs from *palustris* and *borealis* by the black and sooty brown colour of the head and neck, also by greater dimensions. It is admitted by me into this catalogue with hesitation. I believe Cantarini was the first to announce it among the accidental birds of Venetia, and Nini upon his authority. Perini and Betta say that probably it occurs in the Veronese territory. As I have not visited Venetia, I cannot speak positively upon this subject, but assuredly it has not been observed in the rest of Italy. Schlegel observes that it is found in the neighbourhood of Trieste."

Count Mühle, who has recorded the occurrence and detailed the habits of this bird in Greece, says that its habits are different from the other members of the family. It arrives in the Morea, where it appears to be a summer visitor, at the end of April or beginning of May, and locates itself in the little mountain valleys, where it lives solitarily, frequenting the wild-fruit trees, and never being found upon the more lofty ones. Each bird takes up its own territory, and is observed on the same resting-place frequently during the day. They are very unsociable and shy on the appearance of man, and seem to know if they are followed, and consequently are difficult to shoot. Count Mühle did not observe them after September, and was altogether unacquainted with their nidification, the only egg he procured being an imperfect and uncoloured one which was found in a female shot in the spring.

The adult male in breeding plumage has the top of the head and throat dark blackish brown, the rest of the upper plumage bright hair brown; cheeks, chest, abdomen, and under tail coverts white, with the flanks mottled with bluish black; the white patch on the cheeks extends to the upper scapularies. Beak, feet, and iris, brown.

My figure is taken from an adult male kindly sent me by Mr. Tristram. The figure of the egg is from Thienemann.



1. SOMBRE TIT.

2. SIBERIAN TIT. 3. AZURE TIT.

The bird is also figured by Michahelles, in Sturm, Deutschlands Fauna, heft. 2, tab. 1; Gould, Birds of Europe, pl. 151, fig. 1; Dresser, Birds of Europe, pl. 85.

GRANIVORÆ.

Family PARIDÆ. (*Bonaparte.*)Genus PARUS. (*Linnæus.*)

SIBERIAN TIT.

*Parus sibiricus.**Parus sibiricus,**Parus cinctus,**Pæcilia sibirica,**Mésange de Sibérie,**Sibirische Meise,*

GMELIN AND AUTHORS.

BODD.

KAUP. BONAPARTE.

OF THE FRENCH.

OF THE GERMANS.

Specific Characters.—Throat black; top of head brown; chest and abdomen russet. Length four inches and nine tenths; carpus to tip two inches and a half; tail two inches and a half; beak two fifths of an inch; tarsus three fifths of an inch.

THE Siberian Tit, as its name implies, is a northern species, being found only in the boreal regions of Europe and Asia, visiting, during winter, some of the provinces of Russia. It also inhabits Lapland, where it was discovered nesting by the late much lamented John Wolley. According to this gentleman it is the only species which breeds in the Muonioniska district of Finnish Lapland. In his catalogue for 1858, four eggs are inserted as having been obtained at Mokhajerri, from a nest made with the hairs of mice. Mr. Wolley remarks that *P. borealis* is seldom seen in Lapland, and that he doubts if it ever breeds in the far north. In the catalogue for 1860 five eggs are inserted, taken also in Finnish Lapland. It is included in the Scandinavian Fauna by Nilsson. M. Linden, the conservator of the Museum of Geneva, states that this bird is also found in the Swiss Alps; but M. de Selys-Longchamps is of opinion that he mistook *P. lugubris* for it.



I am indebted to Mr. Newton for the following interesting details of this bird:—"My own opportunities of observing *Parus sibiricus* were not sufficient to enable me to say in what particulars (if in any) its habits differ from those of the other species of the genus with which I am acquainted, beyond the fact that its call-notes are easily recognisable as distinct from anything else. Indeed from the information I have at various times received from the late Mr. John Wolley, I should suppose that in manners it closely resembles the rest of the Titmice. It is resident throughout the year in the district around Muonioniska, and as he has often assured me, was the only species which he found to breed there, although in autumn the Marsh Titmouse makes its appearance, and on one occasion a solitary Great Titmouse was obtained by him. I am unable to give even an outline of the range of *Parus sibiricus* in Lapland; but I do not remember seeing it until, in descending the river Muonio, we had entered the region of the Scotch fir, (*Pinus sylvestris*.) I never found a nest myself, nor saw one *in situ*. It breeds in holes of trees, whether naturally formed by decay, or excavated by Woodpeckers. The nest is a mass of hair, principally from the lemming, or some of the voles, but occasionally from the alpine hare, mixed with a little green moss, black fibrous lichen, and willow down. Seven appears to be the usual complement of eggs, but eight, and even nine are sometimes laid. This Titmouse seems to pay as little regard to the rights of priority as some ornithologists do, for several instances occurred to Mr. Wolley's knowledge, of his dispossessing the Common Redstart from a convenient hole in which the latter bird had begun its nest. The ordinary cry of *Parus sibiricus* is perhaps best expressed by the words 'Pistée-tée,' pronounced in a hissing tone, and from this cry the bird gets its Finnish name. By those of the people who are inclined to superstition it is regarded as a bird of bad omen, and the squirrel-shooter or bear-hunter looks forward to a luckless expedition if in starting in the morning, he is greeted by the notes of the busy little Pistee-tianen."

The adult male in breeding plumage has the top of the head and nape dusky brown; the back and upper wing coverts russet brown, mottled with black. Wings and tail dark hair brown. The throat is black, and between it and the top of the head is a broad patch of pure white, extending from the gape to the scapularies, and increasing in width from before backwards. All the rest of the under parts are russet, lighter on the crop, and verging into grey where it joins the black of the throat. Wings and tail underneath slate brown; beak black; feet lead grey; iris dark brown.

The female is rather smaller than the male, having the top of the head and throat of a greyish brown tinged with russet. The young before the first moult are much less russet-coloured above, and of a brown tint, the black feathers of the throat being bordered with grey.

I am indebted for the male specimen figured to the kindness of Mr. Tristram. The egg is from a specimen kindly sent me by Mr. Alfred Newton, and its authenticity, I need not say, may be entirely relied upon. I have a nest of four taken in South Russia.

The Siberian Tit has also been figured by Temminck and Laugier, in the Atlas to the Manual, with the remark of the author, that the russet colour of the flanks is deficient, and that of the abdomen and inferior coverts too deep. The tail ought to have been a trifle longer, and more tapering. Buffon, pl. enlum 708, fig. 3; Gould, Birds of Europe, pl. 151, fig. 2; Dresser, B. of E., pl. 44.



GRANIVORÆ.

Family PARIDÆ. (*Bonaparte.*)Genus PARUS. (*Linnaeus.*)

AZURE TIT.

Parus cyanus.

<i>Parus cyanus,</i>	PALLAS; Nov. Comm. Acad. Peterop., v. 14, p. 588, pl. 23, fig. 3.
“ “	GMELIN. TEMMINCK.
“ <i>cyaneus,</i>	SCHLEGEL. FALCK; Vog., v. 3, p. 407, pl. 31.
“ <i>cæruleus major,</i>	BRISSON.
“ <i>sæbyensis,</i>	SPARRM; Mus. Carl., pl. 25.
“ <i>kujæek,</i>	GMELIN; Syst. LATHAM; Ind., v. 2, p. 572.
“ “	LEPECH; Voy., vol. i, p. 180.
<i>Cyanistes cyanus,</i>	KAUP. BONAPARTE. GRAY; Hand List, No. 3365.
<i>Mésange azurée,</i>	
<i>La Grosse Mésange bleue,</i>	OF THE FRENCH.
<i>Lasurmeise,</i>	OF THE GERMANS.

Specific Characters.—All the inferior parts pure white, with a brilliant blue patch on the middle of the abdomen. Length five inches.

THE Azure Tit, perhaps the most beautiful of the European *Paridæ*, is an inhabitant of the north of Europe and Asia. It is very common in Siberia and the adjacent parts of the Russian dominions, extending in winter through the greatest part of European Russia, being found at St. Petersburg, as well as on the banks of the Wolga, and ranging from thence into Poland, Prussia, and Denmark. It also occurs in the Amur Land. According to Naumann, it is more frequently found in Sweden than in the north of Germany. An occasional specimen may be sometimes found in Saxony, or even in Austria, but it does not

occur further to the south or west. It has occurred, according to Kyærbølling, in Denmark, and Dr. Sturm records its appearance at Nürnberg.

This bird was one of the interesting discoveries made by Dr. Henderson, in the Expedition from Lahore to Yarkand, recently published, and is thus recorded, p. 232:—"This beautiful little species was common in August in the Tamarisk jungles on the banks of the Arpalak, within fifteen miles of Yarkand. It had apparently been recently breeding, as all the specimens obtained were young birds, one of them being scarcely fully fledged." Mr. Allen Hume, who edits the natural history portion of this work, expresses himself in doubts whether he has correctly described the bird, and this because "Degland and Bree both describe the lateral feathers of the tail as tipped and margined with white?"

My description taken from Degland, in the absence of a skin of this rare bird, was substantially correct. The fact is that the under central feathers of the tail would have responded to the description better than the lateral ones. The extreme lateral feather is quite white, sometimes but generally has a slate-coloured patch on base of inner web. The second and third have half the inner webs blue, while the others are blue, tipped and edged with white at their distal extremities. The two central upper feathers are blue, tipped on their outer web with white.

In the beginning of autumn it migrates into warmer latitudes, as in winter or early spring, an occasional pair, or single bird only, will be found in the north-west.

Naumann says that it does not appear to affect trees with pointed leaves, like the fir or pine, preferring willow bushes in meadows by the side of rivers and watery places. In winter they are found more plentifully in the neighbourhood of houses, and come even into towns. It is a lively, agile, and fearless bird, like the rest of its tribe, very skilful in climbing, and is seen, like the Blue Tit, clinging to boughs and branches. It is, however, readily distinguished from the other allied Tits by its longer tail.

Bechstein compares its call-note to that of the House Sparrow, but it is softer.

It lives on insects and their eggs, larvæ, and pupæ, which it diligently picks out from the open crevices of bark, and to get at which, like the Blue Tit, it destroys many buds, blossoms, and leaves. It is also fond of seeds and the kernels of nuts, upon which it may be seen hammering with its beak, having carefully fixed the object in a chink of the tree.

When the first edition was published very little was known about the breeding and general habits of this lovely bird, but since then several naturalists have added to our knowledge thereof. One of the most elaborate articles upon the subject was inserted in the "*Journal für Ornithologie*" for 1871, by Mr. Th. Lorenz, who lives in the neighbourhood of Moscow, and from this I will make an extract or two.—"In the autumn of 1869 I purchased an Azure Titmouse for four roubles (12s. 6d. of our money), a price not so high for so rare a bird. Two weeks later in November I was going out shooting, the snow being seven inches deep. When walking through my garden, which is bounded by willow trees, and close to the river, I suddenly heard the call of an Azure Titmouse. I pulled out my bird-whistle, answered and saw the lovely little bird within twenty yards of where I stood. I fired and brought it down; but it was only winged, and before I could catch it, it called, and immediately another came flying towards me. I hurried home for my trap-cage and tame bird. I had hardly set it, and retired five paces, when the bird came to it, attracted by the call of my decoy. The beauty of its plumage when on the wing can hardly be described. The lovely white and brilliant blue looked beautiful when contrasted with the snowy background. The bird's movements were exceedingly lively, the white crest being continually raised and depressed, and altogether it appeared a more agile and active bird than any of its family. It was caught while I was close to it, and it did not appear to evince any of the caution shown by other Titmice. When I had taken it home I offered it dead ants and shelled hempseed, which were immediately devoured, and when, half an hour after, I offered it a live cockroach, to my astonishment it climbed up the side of the cage, seized and devoured it there and then. All its shyness disappeared, and even at night, when the room was lighted, it would take a mealworm or cockroach when offered."

A week later Mr. Lorenz caught three more, which, when brought home, took ants and cockroaches as the others had done. He ultimately put them altogether into a large cage, containing two Corello Parrots, where their lively habits were a source of continual enjoyment and no little astonishment to the Parrots. The Titmice remained on excellent terms with each other, except that during feeding time the strongest would drive off the weaker. In going to roost they all tried to get the highest perch, when they huddled close together, each forming its droll ball-like shape when asleep. The song is merely the usual call uttered in a low tone, with here and there louder notes. When on the wing they frequently utter a loud 'tirr, tirr.' When settled they survey the ground about them, and utter a loud but

agreeable *tscherpink*, *tscherpink*, *tscherpink* quickly, and then a note like that of the Cole Tit, 'pink,' 'pinktsch,' but the 'pink' is shriller, and the last note less harsh. They have the common Tit note—"st-st-st." They fly low from bush to bush. The flight consists of a succession of bow-shaped lines, is stronger than that of the Great Tit, and somewhat resembles that of the Wagtail. In trees the Tit is very active, and when quiet continually raises and depresses its crest. It is in a wild state the most beautiful of all Tits."

I copy the following from Mr. Dresser's "Birds of Europe," according to Dr. Dybowski, as communicated to Mr. D. by Dr. Taczanowski:—"This species breeds in holes in old trees, especially willows, rarely in the deserted holes of Woodpeckers. The nest is composed of the fur of the white hare and squirrels, with a few pieces of slender grass, and forms a close soft bed fully a centimetre in thickness. All the nests I found were in holes from half a metre to one metre above the ground. They lay ten or eleven eggs, which are larger than those of *Parus cœruleus*, and in colour resemble those of *Parus palustris*, except that the red spots are paler, smaller, and less numerous, generally collected at the larger end; sometimes these spots are so small and pale, as to be almost imperceptible to the eye. In form and size they vary; the measurements of five eggs from different nests are as follows:—18.5 by 12.5, 17.0 by 12.0, 16.5 by 12.5, 16.0 by 11.0, 15.5 by 11 millimetres respectively. If the full complement of eggs is not laid, the female when leaving the nest covers them over with small dry leaves. Like other Titmice she sits closely, and defends her eggs in the same manner. We found complete sittings between the 20th. and 26th. of May, the eggs being then fresh; on the 14th. of June we found young birds."

Eggs taken by Dr. Dybowski on the Ussuri river, a tributary of the Amoor, in my own collection, are similar to those described above. As will be seen by the one figured, they resemble very much the egg of our well-known Blue Tit.

A male bird, also collected by Dybowski in the same locality, in my own collection, has the head, nape, throat, breast, and abdomen white, tinged more or less with blue, and the latter with a blue patch in its centre. At the base of the nape a blue band, which on the side receives a narrower blue band, which passes through the eyes. The back light greyish blue, the upper tail coverts being broadly tipped with white. The tail, which is long, has the two upper feathers dark blue. The most external feather white, with a grey patch at the base of the inner web. The next feather blue on the outer web for half the length of the feather; the inner web from the base to half

the length of feather grey, which colour then passes off diagonally to within half an inch of the tip, which is white. This proportion of colour increases on the other feathers until only a moderate-sized white tip is left. The wing has the upper coverts grey, and the lower ones white, with their bases dark blue, forming a conspicuous white band across the wing. The primaries are dark slate-colour, with the basal half of the outer web ultramarine, and the rest pure white. The secondaries have the inner web dark slate, bordered with white, and the outer web ultramarine; tip white, forming a second white wing band. Bastard primary half the length of the second, which is equal to the seventh. The third, fourth, and fifth equal and longest in the wing; tarsus four fifths of an inch; beak two fifths of an inch; legs and beak black; claws long and sharp.

Note on the label by Dr. Dybowski, made when the bird was in the flesh:—Country, River Ussuri, 48° N. Lat. Male, total length one hundred and forty millimetres. Expanse of wing two hundred and eight millimetres. Distance from apex of wings to end of tail thirty-eight millimetres. Weight 12.792 grammes. Iris fuscous brown.

The bird above described is the one figured. The egg was also taken by Dr. Dybowski.

The female has the top of the head grey white; all the blue colours less pure, and the blue band which passes through the eyes is smaller in the nape.

Figured by Temminck and Laugier; Pallas, Nov. Comm. Acad. Peterop, pl. 23, fig. 3; Naumann, Vogel Deutsch., vol. iv., pl. 95; Gould, pl. 153; Fritsch, B. of E.; Werner, Atlas, pl. 15; and Dresser, Birds of Europe.

GRANIVORÆ.

Family *PARIDÆ*. (*Bonaparte.*)Genus *PARUS*. (*Linnæus.*)

PENDULINE TIT.

*Parus pendulinus.**Parus pendulinus,*“ *arbonensis*, (*jun.,*)*Ægithalus pendulinus,*

“ “

*Mésange Remiz, La Penduline,**La Méseange de Languedoc,**Gemeine beutelmeise,*

LINNÆUS. TEMMINCK ET AUCT.

GMELIN. LATHAM.

VIGORS. BONAPARTE.

KEYSERLING AND BLASIUS.

OF THE FRENCH.

OF THE GERMANS.

Specific Characters.—Vertex and throat white; forehead black, edged with ochreous; cheeks black; back rich deep russet. Length four inches and one fifth; carpus to tip two inches and one tenth; beak from gape two fifths of an inch; tarsus three fifths of an inch; tail two inches.

THE Penduline Tit is an inhabitant of Poland, Italy, South Russia, Hungary, the Crimea, and France. It is also found in some parts of Germany. Degland says he has received the nests and eggs from the neighbourhood of Pezenas; that it is found in Provence, but only during its migration, and accidentally in Lorraine and in the department of the Seine-Inferieure. M. Hardy has also obtained it in the neighbourhood of Dieppe. To these localities Naumann adds Dalmatia, Scandinavia, and Siberia; while Count Mühle tells us that it is not rarely found in the swamps of Rumelia and the Morea.

The Penduline Tit is not only one of the most prettily coloured among the family, but it is altogether a most interesting and remarkable bird. Its nest is a very elaborate structure; and all ornithologists



ENDULINE TIE.

from the time of Aldrovandi, two hundred and seventy years ago, have been eloquent and minute in their descriptions of this singular domicile, and of its ingenious and skilful architects.

A good deal of difference is, however, to be found among their descriptions, and I have therefore thought better to give at length the history of the process, as well as some of the most interesting points in the bird's economy, from two recent observers, one of whom, it will be perceived, accounts for the discrepancy in the descriptions of former naturalists.

In the "Revue et Magasin de Zoologie," for 1859, No. 3, we have the following account by M. Moquin-Tandon:—

"The Remitz or Penduline, called by various authors *Mésange de Pologne* or *de Narbonne*, and by others *Mésange des saules* or *des marais*, is without doubt one of the most remarkable of European birds. This bird displays a wonderful industry in the construction of its nest; no other species in France or Europe forms anything so elaborate and curious.

The nest of the Remitz is not cup-shaped like that of most birds, but is closed at the top, is more or less ovoid, and in the form of a bag or purse; on the side near the top is a small round entrance, which is prolonged into a conico-cylindrical passage, either placed horizontally or obliquely from top to bottom. It is in some respects like that of the Long-tailed Tit, but it is more delicately and skilfully built, and it is particularly distinguished from it by the manner in which it is suspended. This nest does not rest upon the branches or trunk of the tree; it is quite free, and always hangs from the upper part of the flexible branches of aspens, willows, tamarisks, and other trees or shrubs which grow on the borders of rivers or marshes. This is why some ornithologists call the Remitz, Penduline, (*Parus nidum suspendens*.)

When the nest of the Remitz is turned on one side, with the opening above, it resembles somewhat a woollen sock both in shape and material; so much so, that the peasants in the neighbourhood of Nîmes have given the bird the name of *Debassayre*, (stocking-weaver.) This little architectural *chef-d'œuvre* is more or less lengthened according to the age and other circumstances of the bird. The most ordinary form is that of a bagpipe, of which the pipe has been shortened.

M. Requien, of Avignon, sent me from the neighbourhood of his native town a nest of this form, which is very characteristic. It was taken on the borders of the Rhone, suspended to the bough of a young aspen, by a rather long and narrow cord. It had the following

dimensions:—Height seventeen cents.; transverse diameter eleven cents.; length of lobby three cents. and a half; diameter of opening three cents.; thickness of edges four millemetres. It weighed fifty-five grammes. Sometimes the lobby does not exist, and the nest then takes the figure of a wallet, an egg, or a pear, nearly like that of the Long-tailed Tit.

The nest is attached and suspended with fibres of hemp, flax, nettles, stalks of grasses, and even with little pieces of wool and the roots of couch-grass. The length of the suspending rope varies very much. M. Schintz has figured one, which was brought to me, in 1823, from the neighbourhood of St. Gilles, (Gard.) by General de Frégeville. It was suspended to an old aspen on the borders of the lesser Rhone, by a cord four centimetres and a half long.

Guettard has figured two nests of the Penduline, the cords of both being finished by a sort of buckle which surrounds a small branch. I have never seen this sort of fastening. Those I have observed were always twisted round a bending branch, while both assisted in supporting it as well as constituted a part of its structure. Thus suspended by a flexible cord, this pretty little cradle is gently rocked above the surface of the river or marsh, where the insects upon which the Remitz feeds are found in abundance. The opening of the nest always faces the marsh or river near which it is built.

The nest is composed of tufts of thistles, dandelions, viper grass, but above all the light and silken down which surrounds the catkins of willows and poplars. There is also found in it horse-hair and other animal materials, but only when vegetable substances are scarce. I had a nest from the neighbourhood of Pezenas, which was almost entirely composed of sheep's wool, and which had consequently a very strong smell of the grease of that animal.

Having brought together the materials necessary for its nest, the Remitz interlaces them, felts them, gums them together, and thus produces a sort of thick cloth, very close and firm. (It is in fact a real cloth or felt.) This tissue is strengthened with the narrow leaves of grasses, fibres, and rootlets, which sometimes stick out of the exterior. Thus the framework is made. One of the nests figured by Guettard has little bits of straw sticking out, of which the greater part are worked into the texture. The Tits now arrange at the bottom of the nest a small couch formed of down, feathers, and other very soft materials. The colour of the nest is generally greyish or whitish, according to the material of which it is made. Aldrovandi and Thienemann have described nests with two openings, one before and one behind; but in all the nests I have received I have only noticed one entrance.

We have seen that the edifice of the Remitz is suspended from above; the bird first makes the cord, which he twists round a flexible branch. This cord, which is more or less long and thick, is divided into two parts, one of which goes into one side of the nest, the other into the other, and it is easy to observe how this cord will make at first two openings, one before and one behind, and one of which, as the nest advances, the birds shut up, and complete the other into a pretty little door.

The Remitz is not often seen in the north or centre of France, but frequently in the southern departments, and above all on the shores of the Rhone, Durance, Cardon Hérault, and Lez. The male and female work together, and take eighteen or twenty days to complete the nest. This activity is surprising when the perfection of the work is compared with the size and feebleness of the birds.

The Remitz lays four or five eggs, rarely six or seven. They are like those of the House Swallow, but much smaller. They are rather elongated; the shell slender and dull. When just laid they are of an ivory white, and a pure white when blown. Great diameter fifteen millimetres, small diameter ten millimetres; weight when empty six centigrammes. Bechstein and Temminck made a mistake when they described small reddish spots as distributed over the shell, like the eggs of the other Tits. The female lays twice in the year,—in April or May, and again in July or August.”

The following interesting description of the nidification of the Penduline Titmouse given by M. Taczanowski, of Warsaw, is also taken from the “*Revue et Magasin de Zoologie*,” No. 6, 1859:—

“Having had an opportunity of seeing a great number of the nests of the Remitz, and of making a collection of those variously constructed, I have been able to ascertain the way in which they are built, and to correct some mistakes which have hitherto existed, from the imperfect observations which have been made upon them.

The materials which form the foundation of these nests are the fibres of hemp, nettles, and long and slender filaments of the bark of different species of willows, which the Remitz separates in great quantity from those plants when they are dry. It attaches these materials upon a single flexible branch above its fork. When it has sufficient material it begins the real substance of its nest, which is composed of the down of the catkins of the willow and poplar, and is placed *below* the fork of the branch above mentioned. It first forms an outline of the nest, about three centimetres wide, into which it introduces at least one twig of the tree into each side of the nest. When this outline is sufficiently long, it takes the ends of

the filaments and joins them together, so as to form the bottom of the nest. It now lines the two sides of the nest with down, proceeding from the bottom to the top, until it has succeeded in forming a nest which has two openings. Then it lines the centre of the nest with softest down of the willow, and then closes up one of the openings. It strengthens the outside with a greater quantity of willow-down, to which it often adds tufts of sedge, reeds, and thistles, and then diminishes the other opening, and forms a projecting conduit or passage. It uses no animal production in this construction, which takes about four weeks to complete. This is the real form of these nests, all those with two openings being imperfect constructions, and the error has been perpetuated in consequence of the female commencing to lay eggs before the nest is completed, in which both male and female assiduously engage. If the process of sitting commences before the nest is finished, the work is carried on by the male alone. There are very few places in the kingdom of Poland where the Remitz builds. The locality is generally some large pond covered with rushes and bushes, situated on the right hand shore of the Vistula, and in the vast wooded marshes found in the neighbouring country of Paleria—the low and marshy part of Minsk, Volhynia, and Grodno. There are a few which nest on the shores of the Vistula, but none have been found on the left side of the river.

The nest is placed on different species of poplar, willow, and alder, situated from one to fifteen metres or more above the ground; lowest on the osiers, and highest on the poplars. They are not always suspended over the water: more frequently over the ground, but always in places surrounded by water. I have never found them in thickets, but in spots more or less open. In the thick osier grounds they are only found at the edges of the openings and glades. The nest is very easy to find when building, or when the brood is young, for then the parents are always at hand, and give warning of the approach of danger by a slight prolonged whistling, (sifflement.) When the female sits, the male often goes away and gives no warning, but as soon as the nest is taken he appears, perches himself on the place it once occupied, and never ceases to bewail its loss."

Count Mühle remarks that in Greece it is very difficult to get specimens of the Penduline Tit, because it lives and breeds in impenetrable swampy woods, surrounded by grass land which is often under water. He found the nests frequently in the winter empty, when the trees were leafless.

Salvadori ("Fauna d'Italia") says of this bird:—"These birds are found in many parts of Italy, viz.: Piedmont, Lombardy, Venetia,

Saxony, and Sicily. According to Malherbe, they are sedentary in the marshes of Catania. They have not been observed in Sardinia nor Malta. They appear on the banks of the Po and Daura, near Turin, in March and April, but they go away immediately after their young have flown, which is generally about the middle of July. This bird frequents the shores of rivers and ponds, and it makes its nest on the neighbouring trees. The beautiful nest, made of the woolly seeds of the poplar and willow, contains four to six eggs, which are white with rosy spots."

Doderlein says of this bird:—"It is not unfrequent in the valleys of the Modenese mountains. It arrives in April, and nests, and leaves again in October. It is rather rare near Modena; Tognoli only found very few in the spring of 1865 and in 1867 among the poplar trees of Pentetozzi. This clever taxidermist informed me that in the summer of 1869 several were killed upon the lakes of the high plains of Paullo, where they seem to have nested. The museum of Modena possesses a beautiful nest of this species interwoven with the down of the poplar. This bird is common in the marshy lands of Sicily. It lives in some abundance in Catania and neighbourhood of Syracuse. It is rare near Palermo, probably because neighbouring marshes of Mondella and Ficarazzi are often visited by naturalists and other travellers. This species has not yet been noticed in Sardinia."

The male bird in breeding plumage has the top of the head and throat white, frequently verging into grey, which extends to the nape and scapularies. The back and wing coverts rich russet, becoming lighter towards the rump. Forehead black, edged with deep ochreous; cheeks and ear coverts black; neck and crop light russet, spotted with the same rich deep ochreous colour of the back; the rest of the abdomen light fawn-colour, the flanks darker; primaries clay brown; secondaries same colour, slightly tipped with white; tertials brown, deeply bordered with greyish white, tinged with russet; tail of moderate length and emarginate, the feathers all more or less brown, bordered with greyish white; beak black; feet and legs lead grey; iris yellow.

The female has the top of the head grey, and the black of the forehead is wanting, but there is a spot of ochreous brown just above the base of the beak; the inferior parts are of a deeper fawn-colour than those of the male, and the brown of the wings and tail feathers is lighter, and the grey border not so broad.

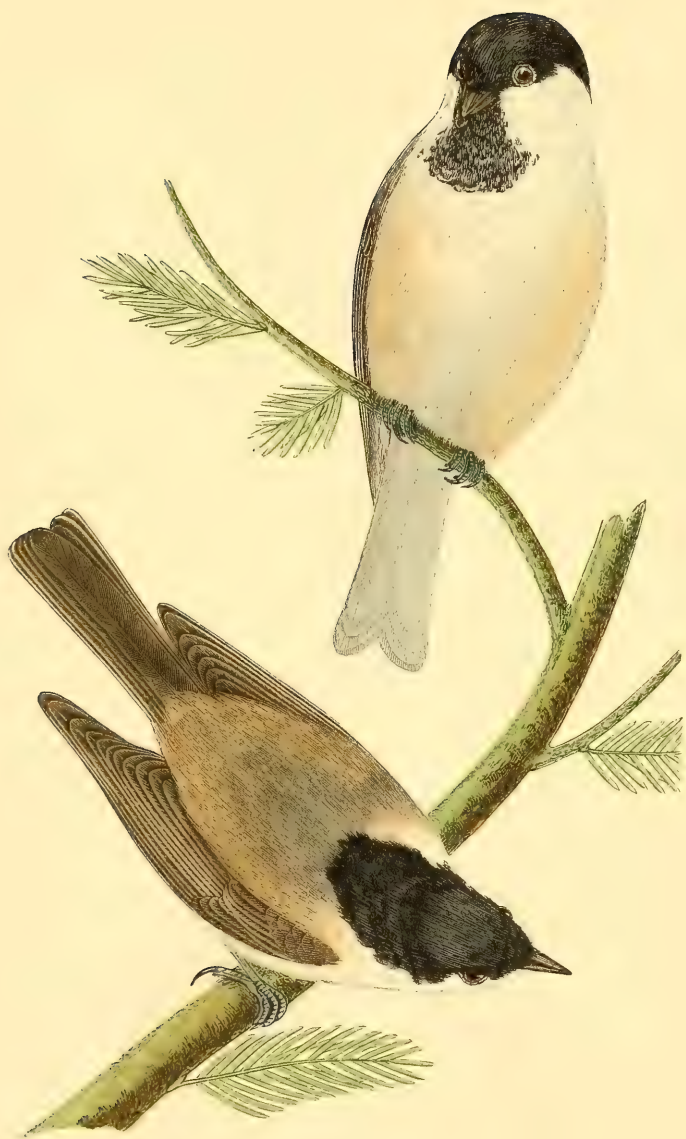
The young before the first moult has the black parts of the forehead, cheeks, and ear coverts replaced by russet; the ochreous colour of the back is less deep than in the adult; the under parts of the body are of a light red.

My figures of this bird are from specimens kindly sent me by the Rev. H. Tristram. The egg is from my own collection, in which there are fifteen specimens. It was taken in South Russia by Herr Glitsch, and is easily distinguished by its size and shape from the egg of every other European bird. The nest is after Gould.

It has also been figured by Buffon, pl. enl. 618, fig. 3, and 708, the young before the first moult under the name of *Mésange de Languedoc*; P. Roux, Ornith. Prov., pl. 124, fig. 1, adult male; fig. 2, head of young; Bouteille, Ornith. du Dauph., pl. 31, fig. 6; Gould, B. of E., pl. 159; Naumann, Vogel. Deutsch., vol. iv., pl. 97, male, female, young, and nest; Temminck, Atlas; Vieillot, Faun. Franc., pl. 50, fig. 2 and 3; Albin, vol. iii., pl. 57; Bechstein, Naturg. Deut., vol. iii., pl. 38, fig. 2; Meyer, Vog. Deut., part 10.



1. PENDULINE TIT.
2. NORTHERN TIT.
3. IRBY'S LONG-TAILED TIT.



NO. 1. 1841.

GRANIVORÆ.

Family *PARIDÆ*. (*Bonaparte*.)Genus *PARUS*. (*Linnæus*.)

NORTHERN TIT.

Parus borealis.

<i>Parus borealis</i> ,	DE SELYS; Bull. Ac. Roy Brux, 1843.
“ “	BONAPARTE.
<i>Poikilis palustris</i> , var. β ,	BLASIUS.
<i>Pæcile borealis</i> ,	GRAY; Hand List, 1870. (3349.)
“ <i>alpestris</i> ,	GRAY; Hand List. (3350.)

Specific Characters.—Black on head and nape not glossy; cheeks all white; back grey brown; edges of wing feathers broadly white; outer tail feathers shorter than the middle one.

PROFESSOR NEWTON, in his edition of “Yarrell’s British Birds,” still retains the opinion expressed in the first edition, that this bird is only a variety of the Marsh Tit. I have, however, been favoured by the late Mr. Wheelwright, of Gadsjö, near Carlstadt, in Sweden, with some remarks about this bird, which I will insert. Mr. W., who had many opportunities of observing this and others of our most interesting European species, writes to me,—

“It so much resembles our Marsh Tit, both in habit and appearance, that I really think it can hardly be called a separate species. There are, however, the following differences, which are constant:—

Palustris.—Head glossy silk black; cheeks and sides of the neck white, rather tinged with black; back blackish grey brown. The edge of the outer web of wing feathers a little paler than the back.

Borealis.—Head walnut dull black; cheeks and sides of the neck clear white; back grey. The edge of the outer web of wing feathers nearly clear white.

In *borealis* the tail is longer and different in construction. The outer tail feather is about two and a half or three lines longer than the middle one, which is nearly as long as the longest in the tail. The outer feather is considerably shorter than the other. In *palustris*, on the contrary, the outer tail feathers are generally of the same length as the middle ones, and always only about a line shorter than the longest in the tail.

Nilsson is of opinion that the species are distinct, and Kjærbølling agrees with him.

If I remember right the British Marsh Tit always builds its nest with moss, etc. Now the nest of our *P. borealis* is always built of the fine under bark of the dead alder tree. That of the Crested and Blue Tit of moss, and sometimes feathers.

P. borealis is very common in the south of Sweden, and only accidental in Denmark.

They say *palustris* goes as far north as the birch grows. It is, however, certainly very rare here, for all I kill are *borealis*. The further north we go after passing Gefla the less common it becomes, being replaced by *P. sibiricus*, which is very rarely killed south of Stockholm. *P. cyanus*, according to Nilsson, is only found in the north of Sweden."

The following letter from Liljeberg to Professor Hamacren, of Carlstadt, was sent me by the late Mr. Wheelwright:—"Although *P. borealis* comes very near to *P. palustris*, still I reckon them as distinct species, because I think I have always found a constant difference between them, both in structure and habit. With the exception of the immature dress, I have always found a difference in the appearance of the black colour on the head, the white on the cheeks, the grey brown on the back, as well as the broad white edges on the wing feathers. Since I have observed this, I can, at a tolerably long distance, distinguish *P. borealis* by the white colour of the cheeks, which extends far back; and other naturalists who have been with me on excursions have done the same. The black colour on the head of *P. borealis* I have always found different in the nearly total absence of metallic gloss, whereas *P. palustris* has always this distinct. In the summer plumage I have found in *palustris* the grey brown colour on the back darker than in *borealis* in the same dress, and I have always found the former wants the white edges on the outer webs of the primaries. Nearly always I have found the wings of *borealis* shorter than in *palustris*, and the exceptions are so few that the fact appears to be normal. Degland's remarks about the colour of the legs have evidently been made from stuffed specimens, and in all such the legs

of this, as other birds, become darker. Any one who has chanced to hear *P. palustris* and *P. borealis* together, can easily distinguish that the note of the latter is both sharper and rougher. The note 'tit, tit,' is sharper, and that which follows it, 'tiah, tiah,' is rougher and more lengthened. On this I lay great weight.

"In Scania I have never seen *P. borealis* otherwise than in fir forests, and here (Upsala) I have never seen *P. palustris* except in leafy plantations, parks, gardens, etc. Here *borealis*, on the contrary, is found sometimes near villages and farms, and we even see them in leafy plantations; but they are found principally in the fir forests, and here it is more common than *palustris*. I therefore stick to the opinion I have previously given about them, and shall do so until proof is adduced that *borealis* is only the northern form of *palustris*. I do not know how the note can be so dissimilar. One thing is certain—they are two different forms. Each person may, after all, agree about their being different species, or not.

"Professor Middendorff, of St. Petersburg, to whom I sent specimens of both, and who only met with *borealis* in Siberia, considers it only a variety of *palustris*. Probably he has never seen them together in a free state, nor heard the difference in their notes. When I first shewed Professor Nilsson *P. borealis* he directly found the specific difference striking. So much can opinions vary in such cases, that before forming a decided conclusion, we must have before our eyes those forms about which there can be no doubt that they are those of which we are reasoning. *P. borealis* is as distinct from *P. palustris* as *Sylvia abietina* is from *S. trochilus*, *S. arundinacea* from *S. palustris*, *S. philomela* from *S. luscinia*, *S. hypoleis* from *S. polyglotta*, etc., although it is less distinct from *P. palustris* than is *P. sibiricus*. The only thing which can make less sure its title to specific rank, would be if it could be shewn that *P. palustris* towards the north by degrees receives as well the same apparel as the same call-note. This is an interesting question, which naturalists should endeavour to find out.

"Upsala, Nov. 11th., 1855.

T. LILJEBERG."

I take the following from a paper by M. Fatio, in the "Bulletin de la Société Ornithologique Suisse:"—

"The Tit, *Parus alpestris* or *borealis*, has been observed and known as being distinct from *Parus palustris*. First in the Grisons, in Switzerland, by Conrad Baldenstein, who described under the name of *Parus cinereus montanus* the bird known as *alpestris*. Possibly later by Selys de Longchamps, who described it as coming from the north as *P. borealis*. Then again by Bailly, who, having found it in Savoy,

named it successively *lugubris*, *alpestris*, and *borealis*, leaving it always doubtful whether there were not two distinct species met with in Scandinavia; it was described by Wallengren under the name of *ruticeti*; being at Saleve, near Geneva, in June, 1844, it was placed by M. G. Fatio under the name of *alpestris*, in a group of Grey Tits, with *P. sibiricus*, *lugubris*, *palustris*, *borealis*, and *atricapillus*. M. De Selys has described it quite lately as coming from the Grisons under the name of its first describer as *Parus Baldenstinii*.

"I have myself studied these Tits in our Alps, and I have arrived at the firm conviction that the *alpestris* is not only a particular form of *borealis*, but that it possesses besides sufficient distinct characters to separate it specifically from *palustris*. Having followed this Tit from the plains to the limits of vegetation, I can speak from my own experience, as I went higher on the mountains, that there was first a sudden passage from *palustris* to *alpestris*, and then a continued and gradual transition of this last to the perfect *borealis*. The more *borealis* inhabits the elevated parts of the Alps, the more its form and colour of its plumage approaches those of the *borealis* of the north, and *vice versâ*, the lower it is found the more it loses the characters given to it in more rigorous climates."

M. Fatio then gives some interesting tables of measurements, and afterwards discusses the question of climatic variety, which he does not think can be maintained.

"If it is the climate which causes the distinction between the *borealis* of the north and that of our Alps, one might suppose that the *palustris* is only a form of *borealis*, which, if submitted to other conditions, might also have other characteristics; for why should we not have slight transitions from one to the other, with a continual increase of altitude and latitude. Let us compare the notable and parallel differences which distinguish the two plumages of *alpestris* and *borealis* to the slight difference which *palustris* shows in its moulting, and we should attach a great importance to this simple fact, not only as a means of bringing together and identifying these two first Tits, but also to separate them specifically from the last. *Alpestris*, of which the habitat is near that of *palustris*, does not retire like it in autumn into the plain to pass the winter; being able, like *borealis*, to resist frost, it remains with it in the mountains, but it also, like *borealis*, develops in its autumn moulting larger silky and different coloured feathers, which, while they protect it from the cold, serve also to distinguish it always from *palustris*."

M. Fatio having made out a case of specific distinction for *Parus borealis*, equally proves that *P. alpestris* is merely a variety, and

proposes that the name should be erased. It will be observed, however, in reference to the question of climate, which undoubtedly has a strong influence in the coloration of birds, that the so-called *P. alpestris* inhabits a lower zone of altitude than *P. borealis*.

M. Fatio describes the female as very much resembling the autumn plumage of the male, but that in spring the leg feathers are browner, and that the tints of the upper parts are clearer, the black gorge with more white bands, and the white on the cheeks being less pure.

The young after they have left the nest have a more sombre plumage than the adults, and the black on their heads and throat is less dark black, and more restricted in space.

The eggs of *Parus borealis* are, according to M. Fatio, rounder than those of *palustris*, and as a matter of course their short diameter is longer.

Parus borealis inhabits in Switzerland the forests of firs, pines, and larch trees; it travels in families, and you can easily recognise it by its call, which at an elevation of eleven hundred is exactly the same as it is at two thousand two hundred metres; it repeats, in fact, always once or twice in a vigorous tone "tzi, kraee," or simply "kraee," "kraee," making the *ae* grave and long. M. Fatio also noticed the same note at two thousand two hundred metres which Bailly attributed to *alpestris*. It breeds at eleven hundred metres elevation the beginning of June, and at two thousand one hundred metres about the end of that month.

Salvadori ("Fauna d'Italia") writes of this bird:—"This species differs from *P. palustris* by being rather larger, and the clear margins of the secondaries are more distinct than in the latter bird. I have recently compared the two species together, having had three *P. borealis* from the mountains of Bergamosio, from Switzerland, and Sweden. This bird has been observed on the Alps, in Savoy, in Switzerland, and in the Alps of Lombardy. It lives in pine groves, and like other Tits congregates among the trees. It nests in the holes of trees, the eggs being similar to those of *palustris*, but according to Signor V. Fatio are rather smaller."

The following are the measurements of my specimen of *P. borealis*, as compared with Yarrell's of *P. palustris*, in inches:—*P. borealis*, length four and nine tenths, carpus to tip two and three fifths, tail two and two fifths, tarsus three fourths, beak from gape one half, beak from forehead, five lines and a half. *P. palustris*, length four and a half, carpus to tip two and three eighths.

The late Mr. Wheelwright kindly sent me a nest containing nine eggs. The nest is built of the under bark of the alder, and is loosely

made, and slightly lined with hair; no moss or feathers. The eggs are very similar to those of *palustris*, but the spots are darker and not so thick.

The birds and egg figured were taken in Sweden by the late Mr. Wheelwright.

It has been well figured in comparison with *P. palustris* in Dresser's "Birds of Europe," which also contains a most complete and exhaustive account of the two birds, and also by M. Fatio in the article from which I have quoted above.



IREY'S LONG-TAILED TITMOUSE.

GRANIVORÆ.

Family *PARIDÆ*. (*Bonaparte.*)Genus *ACREDULA*. (*K. L. Koch.*)

Generic Characters.—Bill very short, strong, much compressed, both mandibles curved, the upper considerably longer than the lower. Nostrils basal, round, concealed by the plumage. Eyelids broad crenate. Wings with ten primaries: the first short, the second shorter than the ninth, the third shorter than the seventh, the fourth and sixth nearly equal, but shorter than the fifth, which is the longest in the wing. Tail very long, narrow and graduated, the outer feathers being only about one third of the length of the middle pair. Legs with the tarsus long and scutellated; feet moderate, the anterior toes united to the second joint, the outer toe longer than the inner, the hind toe stout, and armed with a long hooked claw.—K. L. KOCH.

IRBY'S LONG-TAILED TITMOUSE.

*Acredula Irbii.**Acredula Irbii*,

“ “

SHARPE AND DRESSER; P. Z. S., 1871, p. 312.

DRESSER; Birds of Europe, part 15 (text),
plate 102, part 14.*Parus caudatus*,

OF AUTHORS, in Italy and Spain.

Acredula caudata,

SALVADORI; Faun. d'Ital. Ucc., p. 67, 1871.

Specific Characters.—White band from forehead to nape narrow, and having the sides of the head deep black. Back bluish grey, which on the rump is slightly mixed with dark pink. Upper wing coverts sooty black, slightly mingled with grey on the inner side. Primaries dark brown; the secondaries lighter, with their outer webs very narrowly edged with white. The four upper tail feathers black, the others with an outer border of white, broader at the tip. Under parts whitish, with grey longitudinal spots on the crop, and the lower abdomen and flanks deeply tinged with rosy. Bill black; feet dark brown; iris brownish red; eye ring orange. Length five inches; carpus to tip two inches and one fifth; tarsus half an inch. The above

description is from a specimen sent to me by Colonel Irby, which is figured.

A young specimen sent to me by Mr. Savile Reid, also figured, has the top of the head white; sides of the head, forehead, back, and upper wing coverts dark brown tinged with vinous. Primaries rich dark brown; secondaries the same, bordered all round with white. Upper tail feathers black; the lateral ones black, with their outer webs white, broader at the tip. Under parts white, mingled from the crop with grey. Under tail coverts vinous. Beak black; feet light brown. Length five inches; wing two inches and one fifth; tarsus half an inch.

I HAVE given a description of this bird under the heading of specific characters, in order that my readers may see at a glance the differences between the species discovered by Colonel Irby at Gibraltar, and introduced by Mr. Dresser into his "Birds of Europe" as a new species, having previously described it with Mr. Sharpe at a meeting of the Zoological Society.

In its young stage it is stated by Mr. Dresser to be like the young plumage of our well-known Long-tailed Tit, *Acredula caudatus*, or, as Mr. Dresser calls it, *A. rosea*, which I think is premature, because it has not been definitely proved that the *Acredula rosea* of Blasius is the same as our bird, and inexpedient, because the term *caudatus* is well known to everybody, and *rosea* only to a favoured few. Be this as it may, however, the difference between the two birds (*A. Irbii* and *A. caudatus*) is sufficiently strong to give *Acredula Irbii* specific distinction.

The habits and nidification of this bird are similar to those of its near relation. It is named after its discoverer, my friend Lieutenant-Colonel Irby, who is a zealous and hard-working naturalist.

Two other Long-tailed Tits have been mentioned as occurring in Europe. One found in Northern and Central Europe, in which the head is quite white, and which may turn out to be as good a species as that just described; and one figured and described by Mr. Dresser as *Acredula tephronata*. It is stated, however, by Dr. Gunther, who first described and figured the bird, ("Ibis," 1865,) to have been received from the Asiatic side of Turkey by Mr. Robson. It will therefore not be included in this work.

The old bird figured is from a specimen sent to me by Lieutenant-Colonel Irby. The young and the egg are in my own collection. They were taken at Gibraltar, and sent to me by Mr. Savile Reid.

The bird has also been figured in Mr. Dresser's "Birds of Europe," part 14, and described in part 15.

The egg is now figured for the first time.



WHITE-WINGED PIED WAGTAIL.

INSECTIVORÆ.

Family MOTICILLIDÆ.

Genus MOTACILLA. (*Latham.*)

Generic Characters.—Beak slender, straight, awl-shaped, cylindrical, and angulated between the nostrils; the edge of the inferior mandible compressed inwards. Nostrils basal, lateral-ovoid, partly closed by a naked membrane. Tarsi as long again as the middle toe; three toes in front and one behind, the outer toe of the three joined to the middle toe at its base; the claw of the hinder toe longer than those in front, which are very small. Tail very long, and nearly even at the end, having twelve feathers. Wings of moderate size, first quill the longest, second and third equal, and nearly as long as the first. The tertials very long.

WHITE-WINGED PIED WAGTAIL.

Motacilla vidua.

<i>Motacilla vidua,</i>	SUNDEVALL; Ofv. Kongl. Vet. Akad. Forh., 1850, p. 153.
“ <i>lugubris,</i>	PALLAS; Fauna Rossica.
“ “	SIEBALD; Fauna Japan., Tab. xxv.
“ “	KITTLITZ; Taf. 21, f. i.
“ “	BONAPARTE; Compar. List, 1838.
“ “	GOULD; B. of E., pl. 142.
“ “	TEMMINCK; Orn. Man., 1836, (but not of 1820.)
“ “	BREE; first Edition.
“ <i>leucoptera,</i>	VIGORS.
<i>Schwarze Bachstelze,</i>	MEYER; Orn. Tasch.
<i>Sombre Wagtail,</i>	BREE; first Edition.

Specific Characters.—Upper parts sooty black, the basal half of the feathers being ash grey, which when they are undisturbed gives a greyish tinge to the plumage. Basal half of primaries, except first, and the secondaries pure white at all seasons.

Length of male sent me by Mr. Tristram, seven inches and two fifths; of female six inches and seven tenths. From carpal joint to tip three inches and a half; tail three inches and three fifths; beak from gape seven tenths of an inch. Breadth of lower mandible at gape one fifth of an inch; tarsus one inch.

THE Wagtails form a group of birds always interesting to the naturalist. They are among the most beautiful and elegant of the feathered tribes, and there are few people who have not watched their graceful movements among our rocky streams without pleasure.

They are also interesting studies to the philosophic naturalist—for they present him with some puzzling problems as to the distinction between species and variety and race. “Natural selection” has been busy with the group, and without however shewing any tendency to develop a Pelican or a *Balaniceps rex* out of the delicate Wagtail, it has given to one a darker head, and to another a gayer coat, which I doubt not will in that extensive future which we are told to expect, have their due influence over the deluded eyes of the weaker Wagtail sex.

There are eight European Wagtails described by authors, five of which are observed in England. Degland however has reduced this eight to four. He leaves out *M. lugubris*, Pallas, as of uncertain occurrence in Europe, and he considers *M. yarrelli*, with which it is thought identical by authors, as a variety of our White Wagtail, the *Motacilla alba* of Linnæus.

M. cinereo-capilla of Savi, *M. melanocephala* and *M. flaveola*, (Ray’s Wagtail,) are considered by both Degland and Schlegel, to be races or varieties of *M. flava*, (our Grey-headed Wagtail.)

Mr. Tristram writes me word that he cannot satisfy himself of the specific distinction of *M. flava* from *M. cinereocephala*, and that he can shew every intermediate gradation between *M. flaveola* and *M. melanocephala*.

This subject is very well treated by Dr. Zander in “Naumannia,” 1858, Part 3, p. 239. Dr. Zander considers that all European Wagtails are varieties of *M. alba*, *M. boarula*, *M. citreola*, and *M. flava*, Linnæus. He says he considers much of the difficulty arises from the fact that the intermediate varieties are not so frequently seen as the so-called species. He describes how perplexing are the changes produced by a substitution of black or yellow for grey, or by the passing of grey into grey yellow. “The grey goes through all shades till it comes to the clearest black, and the eye stripe becomes less, until hardly seen.” He also thinks that the various colours in the females

and young are not good specific indications. The clear black head predominates in warm, and the black-grey head in temperate climates, the grey-yellow head being peculiar to England.

Under these circumstances, and after consulting various specimens, and leaving the English species for others to discuss, I shall introduce into this work the subject of the present notice as distinct; and *M. flava-cinereocephala* having been introduced into the British fauna, and figured by Gould, I shall figure and describe *M. flava-melanocephala* as a distinct species.

Motacilla vidua was excluded by Schlegel and Bonaparte from the European list, the former stating we had no proof of its existence in Europe. The Rev. Canon Tristram has however been kind enough to draw my attention to some recent captures in Turkey and the Crimea, which have confirmed the original notice of this bird by Pallas, on the borders of the Black Sea.

This bird is very distinct from either *M. yarrellii* or *M. alba*, and may probably be considered typical of the pied races.

I have been favoured with the following notes by Canon Tristram:—"The bird figured by Roux, Orn. Prov., under this name, and also that described by Temminck, in 1820, is merely the *Motacilla yarrellii* of Gould. Though Temminck corrected this error in his edition of 1836, and suppressed all that he had formerly written on the subject, yet these authors have been implicitly followed in their mistakes by almost all subsequent writers. So much easier is it to perpetuate error than to correct it.

Bonaparte, who had in his catalogue included *M. vidua* among the Birds of Europe, in his later work, the "Conspectus," while acknowledging the specific value of *M. lugubris*, excludes it from the Birds of Europe, having only seen Japanese specimens. Pallas, however, found it on the shores of the Black Sea, and it has since been frequently obtained in Turkey. Several specimens were sent home by officers engaged in the Crimean war, which had been obtained near Sebastopol, some of which I have had the pleasure of examining. It winters regularly in Egypt and Nubia, which appear to be its western limits, and where it meets the *M. alba* of Europe. Thus we find one form, *M. alba*, with its western variety, *M. yarrellii*, extending over the whole of Europe and North Africa, and another, *M. vidua*, occupying the vast continent of Asia, and in its western limits disputing its territory with *M. alba*. It would also appear from the remarks of Middendorff that as *M. alba* varies in its western habitat from the typical form, so does *M. vidua* in the extreme east become more marked in its coloration.

In all stages however it may at once be distinguished from any variety of *M. alba*, by the wing primaries, more than half of the upper portion of which are pure white, while a white fringe, broader in summer than in winter, runs along the outer edge of the secondaries. The middle wing coverts are also pure white."

Canon Tristram also, "Ibis," 1866, in a paper on the Ornithology of Palestine, p. 291, admits that the bird described by me in the first edition as *M. lugubris* is identical with the bird noticed by Dr. Kirk on the Zambesi as *M. vidua*, and Professor Newton has conclusively shown that the word *lugubris* must be applied to our British Pied Wagtail, *M. yarrellii*. Canon Tristram thinks that Dr. Kirk's bird assists to clear up the mystery caused by the unfortunate conflict of terminology, which was right and that which was supposed to be right. "I think," says the Canon, "we have here the difficulty explained. The true *M. lugubris* (= *M. vidua*, Sund.) is an African form, only occasionally penetrating to the north, probably by the shores of the Red Sea, and so from time to time found in the Mediterranean."

The following are Dr. Kirk's notes, "Ibis," 1864, p. 318, on Birds of Zambesi region:—" *Motacilla vidua*. Native name on Zambesi river 'Droindivi.' Everywhere. Never injured by the natives, who have some superstitious belief connected with it."

In the P. Z. S., for 1863, p. 275, Mr. Swinhoe, in his paper on the Birds of China, has been at some pains in endeavouring to solve the difficulties attached to the *lugubris seu lugens* group. I will quote from his paper:—"Under the term *M. lugens seu lugubris* there has been a confusion of the races of the Pied Wagtails, which I have been at some pains to clear up. The difficulty began with Temminck, who in his 'Manuel d'Ornithologie,' p. 175, described Pallas's Russian species from Japanese examples. He there gives the summer plumage as having the *forehead white*. At a later date Schlegel refused to acknowledge the existence of Pallas's species as a European bird. Pallas, however, procured his typical specimens, as he tells us, from the shores of the Black Sea; and it has since been brought by officers from the Crimea, and by Mr. Tristram from Egypt. One of Mr. Tristram's two specimens (both of which I have carefully examined) has been figured in Dr. Bree's work on the Birds of Europe. I have no hesitation therefore in applying Pallas's name to the race or species found in Western Asia adjoining Europe. Middendorff (Sib. Reis.) applies Pallas's name to the Wagtail of Amoorland, which from his description is identical with the bird found in China, of which I possess numerous examples in all plu-

mages from Amoy, and one adult summer male from Tientsin. This permanently grey-backed race I have named *ocularis*. In Japan a race occurs, similar to the Chinese bird in having the broad white forehead, but resembling the true *M. lugubris* (*M. vidua*, C. R. B.) in its summer black back.

"The following diagnosis will, I think, serve to distinguish the three races or species:—

1. *Motacilla lugubris*, Tem., *M. albeola* var. *lugens*, Tem., (*M. vidua*, Sundevall, C. R. B.) From two specimens shot by Mr. Tristram, 2nd. February, 1860, in Egypt. The pectoral band incomplete, showing the birds to be in winter plumage. *Forehead black; upper parts blackish brown, with no indications of bluish grey; the primaries are white for only one third at their bases, and the lateral tail feather is entirely white.* Habitat, shores of Black Sea; Odessa; Turkey; Egypt, (in winter.)

2. *Motacilla Japonica*, Swinhoe, *M. lugubris* seu *lugens*, Tem. and Schlegel, 'Faun. Japon.' The adult summer plumage of this race has been correctly figured in 'Fauna Japonica.' *The forehead is always white, greater part of primaries pure white, but the white lateral tail feathers with a black inner edge.* In winter its back becomes smoke grey, but always more or less patched with black, with a black shoulder. Habitat, Japan; straggles to the China coast in winter.

3. *Motacilla ocularis*, Swinhoe, *M. alba* var. *lugens*, Von Schrenck and Midd., *M. albeola* var. *kamtschatica*, Pall. *Back, scapulars, and shoulder patch perennially light French grey; quills more or less broadly edged with white, never so entirely white as in foregoing; lateral white tail feathers broadly edged interiorly with black.* In summer the breast blackens to the bill, leaving however the cheeks and side of neck white as before; the plumage remains otherwise the same. Habitat, Eastern Siberia; China; Formosa; through Amoorland to Kamtschatka. Some stay all the year round in South China and Formosa.

"Bree is certainly wrong in the blue coloration of the back in his plate, for neither of Mr. Tristram's birds shows any trace of it."

With regard to this last remark I have to observe that I correctly figured the bird sent to me by Mr. Tristram, which was marked—"Assouan, Feb. 2, 1860, W. C. P. Medlycott," as I stated in the text. I also described in my "specific characters," that the rump was ash grey but the back sooty black.

Canon Tristram has kindly lent me the skin which was figured in the first edition, and there, true enough, is the grey rump, notwith-

standing Mr. Swinhoe's remark. I think, however, this can be easily explained. The Canon also sent me what may be called the type specimen, being one of the skins captured by Dr. Kirk on the Zambesi. Now the grey rump is faintly visible in this specimen also, and is quite evident when the wings are moved. It appears, however, as if this grey character of the feathers was the permanent condition, which in Mr. Medlycott's specimen had been partially removed, but which is also more or less visible in Dr. Kirk's specimen. In the description, p. 153, I remark, "The adult male in winter plumage has the whole of the upper parts, except the rump, black, owing to the *ends* of the feathers being of that colour; the basal half of the feathers is *ash grey*." If the ends of some of the feathers are not developed or worn off, then the black will have a more or less grey tinge like Mr. Medlycott's bird, which in fact has the "rump ash grey, mingled more or less with dusky feathers," although the normal condition is doubtless that the back should be altogether black.

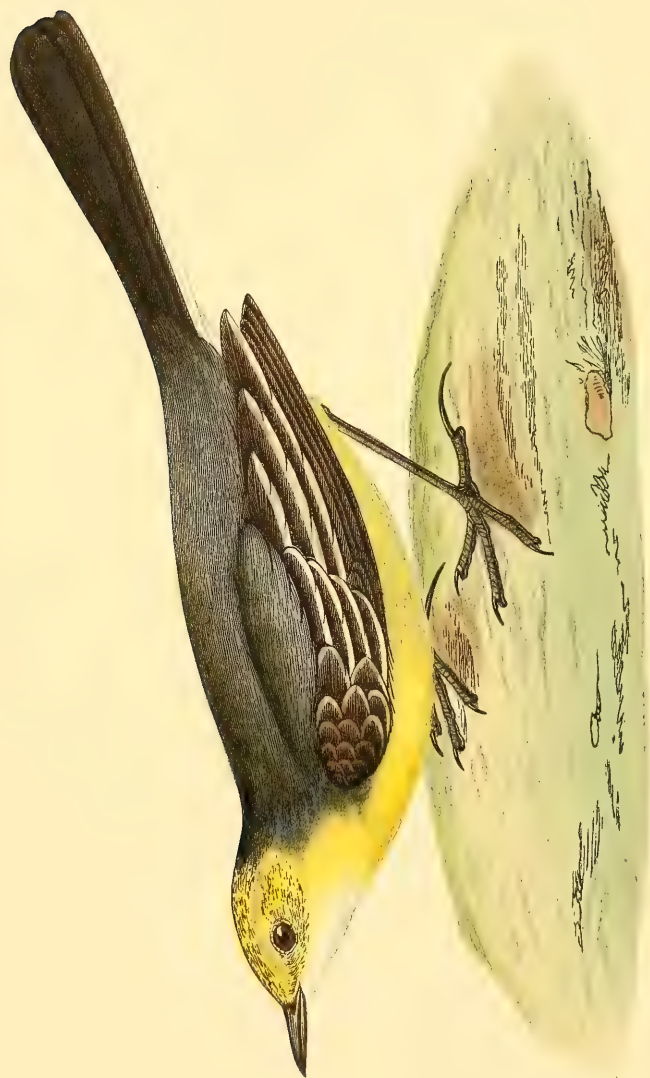
I look upon Mr. Swinhoe's three birds as varieties of the true White-winged Pied Wagtail, the *Motacilla vidua* of Sundevall.

The skin figured, kindly sent me by Canon Tristram, is from one of the specimens killed by Dr. Kirk on the Zambesi.

The adult male in winter plumage has the whole of the upper parts black, owing to the ends of the feathers being of that colour; the basal half of the feather is ash grey. Upper tail feathers black. Throat, lore, ear coverts, belly, under tail and wing coverts, and two outer tail feathers on each side, white. The white of the belly rather tinged with cream-colour, and the second tail feathers on each side having a slight border of blackish brown. First four wing primaries of nearly equal length, the second longest, the fifth, sixth, and seventh each one third of an inch shorter than the preceding feather; seventh and eighth of equal length. First primary entirely black, all the rest and the secondaries having the basal half of each feather pure white; tips of the inner five primaries, and a border on the inner web of the secondaries, white. Lesser wing coverts and distal half of primaries black; distal half of secondaries black, except the outer border; middle wing coverts with the inner web black, and the outer white, the black prevailing more as they approach the entirely black lesser coverts. Beak, feet, and tarsi black.

The female only differs from the male in being half an inch less, in having less white about the wings, and that of the belly and throat more decidedly cream-colour.

It has also been figured by Gould, pl. 142.



YELLOW-HEADED WAGTAIL.

INSECTIVORÆ.

Family MOTACILLIDÆ.

Genus MOTACILLA. (*Latham.*)

YELLOW-HEADED WAGTAIL.

Motacilla citreola.

<i>Motacilla citreola,</i>	PALLAS; Voy., vol. iii., p. 696, 1776.
“ “	GMELIN; Syst., i., p. 962, 1788.
“ “	LATHAM; Ind., 1790.
“ “	TEMMINCK; Man., p. 259, 1820.
“ “	KEYSERLING AND BLASIUS; Die Wirbelt, 1840.
“ “	SCHINZ; Europ. Faun., 1840.
“ “	SCHLEGEL, 1844. DEGLAND, 1849.
“ “	MIDDENDORFF; Sibirische Reise, ii., p. 163.
<i>Budytes citreola,</i>	BONAPARTE, 1838.
<i>Bergeronette citrine,</i>	OF THE FRENCH.
<i>Citronengelbe Schafstelze,</i>	OF THE GERMANS.
<i>Yellow-headed Wagtail,</i>	PENNANT; Arct. Zoology.

Specific Characters.—Beak and scapularies bluish grey; head, neck, throat, and all inferior parts of the body, citron yellow; the lateral tail feathers pure white. In the female top of the head and cheeks ashy grey. Length six and a half to seven inches.

THE Yellow-headed Wagtail is an inhabitant of Eastern Russia, Siberia, and Bokhara. It is rarely found more south, though Calvi has introduced it among the birds of Liguria, and Temminck has given the Crimea, Hungary, and the Archipelago, as probable localities. It is therefore not much known to naturalists, and we must accompany Pennant, Pallas, or Middendorff, into the far cold arctic regions, to gain a glimpse of its whereabouts.

"This species," says Middendorff, "breeds very rarely in Boganída, (71° N., Br.) In the S. E. I missed it entirely. Gould falls into the same mistake as Pallas in stating that the European Yellow Wagtail exceeds *M. citreola* in size. It is just the contrary. The colour of the back of my Siberian species is also blackish, with a lead-coloured tint, and not greenish, as it is represented by Gould. The summer dress of the old female seems hitherto to have escaped observation; what Pallas says respecting it is indefinite, and Gould's drawing does not agree with the Siberian form. The female in summer dress has the top of the head lead-grey, with a greenish tint, and the yellow of the throat is separated from the yellow stripe over the eyes by a grey band."

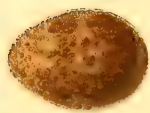
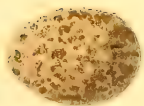
Mr. E. Brooks, of Khugoul, near Dinapore, writes me about this bird,—“The female has not a pure yellow head like the male, and she has no black at the back of the neck. The black-backed species, *B. calcaratus*, Hodgson, is quite distinct, but its female is very like that of *citreola*. It breeds in Cashmere, but *citreola* leaves Cashmere in June and end of May. I did not get the egg of the *citreola*, but I shot the females which evidently had laid, as one of them contained an egg as large as a marble. They were in pairs, and had all the appearance of having nests, but they were too well concealed under I think the clods in the ploughed fields for me to find them.”

The adult male has the top of the head, cheeks, and inferior parts generally vivid and pure citron yellow; nape, back, crop, and flanks, lead-colour; at the bottom of the neck posteriorly there is a distinct black semi-collar; middle and greater wing coverts bordered and terminated with pure white, giving a double band of white across the wing near the carpus; primaries brown; rectrices blackish, except the two lateral tail feathers, which are pure white; feet and legs brown; posterior claw longer than the toe. The males and females have no black cross on the occiput after the autumn moult.

The bird figured is from a fine male in my own collection, sent to me by Mr. Brooks, of the Great Eastern Railway, India, who has paid much attention to these birds. It was killed on the 9th. of March, 1871, and therefore is in breeding plumage. The black band on the occiput mentioned by Middendorff is absent.

The figure of the egg is also from a specimen in my own collection. It was taken in Siberia in May, 1869, and was sent to me by Dr. Meves, of Stockholm.

Figured by Gould, pl. 144; Middendorff, *Sibirische Reise*, ii., pl. 14, fig. 4; also by Mr. Dresser, *B. of Europe*, the male figure of which is painfully large.



1. YELLOW-HEADED WAGTAIL.

2. & 3. RED-THROATED PIPIT. 4. BLACK-HEADED WAGTAIL.

INSECTIVORÆ.

Family MOTACILLIDÆ.

Genus MOTACILLA. (*Latham.*)

BLACK-HEADED WAGTAIL.

Motacilla melanocephala.

<i>Motacilla melanocephala,</i>	BONAPARTE; Icon. d. Faun. Ital., pl. 31, fig. 3.
“ “	DEGLAND. LICHTENSTEIN. DUBOIS.
“ <i>flava-melanocephala,</i>	SCHLEGEL; Revue. BREE; 1st. Ed.
“ <i>viridis,</i>	GMELIN. SCOPOLI. HODGSON.
<i>Budytes melanocephala,</i>	MENETRIES.
<i>Bergeronnette, or Hochqueue a tête</i>	
<i>Noire,</i>	OF THE FRENCH.
<i>Schwarzköpfige gelbe schafstelze,</i>	OF THE GERMANS.

Specific Characters.—Top of the head and cheeks a deep black; beak black; throat white. Length about six inches.

THIS species was described and figured by Prince Charles Bonaparte, in the “Fauna Italica,” pl. 31. Its claims to specific distinction have, however, been doubted by Temminck and others. Mr. Tristram writes me word that he has seen every gradation of colour from *M. flaveola*, (our Yellow Wagtail,) up to the present bird, and he has sent me specimens which bear out this opinion. It is, in fact, very probable that all the European Yellow Wagtails are permanent varieties or races of the same type. Mr. Tristram writes, “I have obtained *M. flaveola*, (Ray’s Wagtail,) in Morocco, where it is certainly the general, if not the only variety. In Spain and Portugal I have got it, and not *M. flava*, and I presume that on the Atlantic coast *M. flaveola* is the commonest form. In Algeria *M. flava* is almost universal, but I have

twice shot *M. flaveola* in its passage in the Bay of Algiers. At Tunis, and further east, I have only found *M. flava* and *M. cinereo-capilla*. At Pyles (Navarino,) I got *M. melanocephala*, which is also very common at Athens, where I saw no other. In Palestine I got *M. melanocephala* only, but I saw at Jerusalem, in Dr. Rotte's room, a skin of *M. flava*. Thus it appears to me that the varieties glide into one another, the black on the head increasing in intensity as we go eastwards."

These are very interesting remarks, and clearly lean towards the very strong inference that these birds have a common origin. Count Mühle has taken the opposite view, and gives the following as his reasons. He says in the first place, that in Greece the plumage of *M. flava* is the same as with us, that it never mixes with *melanocephala*, and that while the former is found in the districts of Lavadien, Malo, and Lamia, the latter occurs in the Morea; and that where *M. flava* is found, there also shall we meet with *M. alba*, but never *M. melanocephala*. He further remarks that *M. melanocephala* goes away early with *Merops apiaster* and *Emberiza caesia*, while *M. flava* may be found in winter, and that among hundreds of specimens of *M. melanocephala* which he had seen, none were in a transition state.

M. Dubois endorses Count Mühle's views, and gives figures and descriptions of the birds. Still more strongly does Mr. E. Brooks, C.E., of India, insist upon the specific distinction of the three Yellow Wagtails, *M. flava*, *M. cinereo-cephala*, and *M. melanocephala*—the present bird. He writes to me, "I send you one of each of the three *Budytes*. They are three very distinct species. I will give you a characteristic of each, which I think is infallible. *M. flava*—Ear coverts as pale as the top of the head, generally streaked with white. *M. cinereo-cephala*—Nearly black ear coverts, the head being lead-grey. *M. melanocephala*—Ear coverts and head totally black, saving chin and throat. I should say I have had lots of young grey and white birds of each, and have noticed that they change direct into *flava*, *cinereo-cephala*, and *melanocephala*, as the case may be. The females of each are as notably different, but it would take too long to describe them fully. Briefly they are to be noticed as follows:—

M. flava ♀.—Head broad, ruddy white eyebrows, head not pure lavender grey like the male, colours duller.

M. cinereo-cephala ♀.—Strongly distinguished from the other two females by its great brilliancy, almost approaching that of the male. Superciliar not always present; when so it is narrow, and of a dull paler ochre—not ruddy white like *flava*.

M. melanocephala ♀.—A variable bird, as dull as the male is bright.

Lower parts often only washed with ochre—not often yellow. The old females are sometimes as yellow as those of *flava*, and then their head is a sort of dull black, but very different from the intense black of the male. The majority of the females, however, have the head a dark brown grey. The superciliary not always present, but when so it is of a dull brownish white or a very pale brown. *M. Rayi* you know well enough. It has no grey and no white anywhere; superciliars always yellow, with greenish tinge. It is a purely western bird, and Swinhoe was mistaken when he said it occurred in China. His '*Tarbanus*' must be either *M. citreola* ♀ or *M. calcaratus*, or more probably *M. cinereo-cephala*."

In confirmation of Mr. Brooks' views, which are very clear and definite, I introduce *M. melanocephala* into this edition as a distinct species, and figure Mr. Brooks' male bird. *M. cinereo-cephala* having been introduced by Gould into the British list, ceases to have a claim upon me. I however on the plate give the heads of *M. flava* and *M. cinereo-cephala* from Mr. Brooks' specimens.

The Black-headed Wagtail occurs in Algeria, Egypt, Nubia, Arabia, Syria, Persia, and India. It occurs also in Dalmatia, Sicily, and the Caucasus. Is accidental in Germany, France, and Belgium. Rare in Italy. It was taken by W. H. Simpson, Esq., at Missolonghi, in Greece, June, 1859.

Its habits it is like others of its very marked and distinctive family. It is fond of pastures, plains, and marshes, and, according to Dubois, it is constantly on the ground, but that it is also found perching on the branches of bushes and on the stems of willows and osiers. They are very lively in their movements, but the same author also says they are "*farouches et sauvages*." The same author tells us that they feed on flies, gnats, moths, and beetles, both in the perfect and larva state; that they nest on the ground or in a bush on the borders of fields and plains. The nest is made of dry grass, small roots, and moss, lined inside with fine grass or wool. They lay from four to six eggs.

Mr. Simpson, in the article above quoted, (*Ibis*, vol. ii., p. 393,) has some very interesting remarks about this bird, and as they support this view of its specific distinctness, I quote the following:—

"Before taking leave of the lagoon in its summer aspect, there is one more bird well worthy of our attention, though it may seem somewhat out of place at the end of the list. Let the egg-seeker land on any islet, mud-bank, or sandy spit not destitute of vegetation, and who so ready to herald his approach, watch his proceedings, and chirp defiance at him from the top of a hillock, as the vivacious

brilliant *Motacilla melanocephala*? His mate has long ago quitted her nest, and presently makes her appearance in quite another direction, with that demure look which these birds are apt to assume when they wish to look as if they didn't come from anywhere in particular. This bird is one of the especial features of Missolonghi, where it is exceedingly numerous, and the only Wagtail seen during the summer time. Besides the great contrast between the black-head and grey one, and the superior brilliancy of the yellow of this bird, together with the minor distinctions which may be observed on comparing skins of it with those of *M. flava*, there does not appear to be any difference in their respective habits, though much in their distribution.

M. flava is an early spring migrant here, even wintering, according to Von der Mühle, in the extreme south of the Morea; the flight is generally over before *M. melanocephala* makes its appearance, while the latter comes about the same time as *Merops apiaster*. The same authority also says that 'we never meet with *M. flava* and *M. melanocephala* together,' that 'in many districts, such as Livadia, Volo, and Lamia, only *M. flava* is met with, whilst in the Morea it is only *M. melanocephala*.' This I presume is meant to be during the breeding season. If his observations are correct as to the east coast of Continental Greece, it would appear that *M. melanocephala* does not go very far north on the side of the Ægean, whilst on the west side of the Hellenic peninsula, Mr. Powis (Lord Lilford) (*Ibis*, vol. ii., p. 229) noticed this species, though in small numbers, near Butemto, in Epirus, which is pretty nearly as far north as it seems to have been observed."

Salvadori, "Fauna d'Italia," writes:—"This species by many is considered a variety of *M. flava*, but reflecting upon the different geographical distribution, (rare in Egypt and Italy, where the other two species, *M. flava* and *M. cinereo-capilla*, are common,) I am inclined to consider it a truly distinct species. In Italy it is the rarest species of the genus. It is found at the same time as the two birds above mentioned, and more frequently than elsewhere in Sicily, Liguria, and Malta, where it has received a common name, according to Wright, derived from its note being different from that of the above birds. It is said to nest in the interior of Sicily (Doderlein)."

The adult in breeding plumage has the cheeks, top of the head, nape, and upper tail feathers deep black; back olive green, but not so dark as in the preceding variety; a beautiful yellow, or, as Degland has well expressed it, *d'un beau jaune jonquille*, below; the crop and part of the flanks more or less shaded with olive green. Wing coverts olive green, bordered with grey; primaries and secondaries hair brown, the latter broadly bordered with grey, outer tail feathers white, the

inner web black at basal half; beak, feet, and iris, brown.

In the young, according to Degland, the upper parts are olive grey, with the nape ashy and the head blackish, darker in front, and above the eyes and ears; yellowish below, with the throat whitish.

M. feldeggii is a transitional variety between this and the last noticed.

This bird is figured from a male specimen sent me by Mr. Brooks. The egg from the Rev. Canon Tristram.

It is also figured by Bonaparte, in *Fauna Italica*, pl. 31, fig. 2; Gould, *B. of E.*; Rüppell, *Atlas Reise Afric*, pl. 33; Dubois, *Oiseaux de la Belgique*, pt. 48, pl. 94, male and female.

INSECTIVORÆ.

Family MOTACILLIDÆ.

Genus ANTHUS. (*Beckstein.*)

Generic Characters.—Beak straight, slender, cylindrical, and compressed towards the point, with the edges bent inwards near the middle; base of the upper mandible rather elevated, and the tips slightly hollowed out. Nostrils basal, lateral, partly covered with a membrane; tarsi elongated; middle and external toes united at their base; posterior toe very long, and the claw more or less curved; the longest wing tertial as long or longer than the longest primary. Tail composed of twelve quills, and emarginated.

RED-THROATED PIPIT.

Anthus cervinus.

<i>Motacilla cervina,</i>	PALLAS; Zoog., vol. i., p. 511, (1811.)
<i>Anthus rufogularis,</i>	BREHM; Vogel Deut., (1831,) p. 320.
“ “	TEMMINCK; Man., (1835.)
“ “	CH. BONAPARTE, (1838.)
“ “	SCHINZ. DUBOIS. NAUMANN.
“ <i>cervinus,</i>	KEYSERLING AND BLASIUS, (1840.)
“ <i>pratensis rufigularis,</i>	SCHLEGEL; Revue, 1844.
“ <i>ceciliæ,</i>	AUDOUIN.
“ <i>rosaceus,</i>	HODGSON.
<i>Pipit à gorge Rousse,</i>	OF THE FRENCH.
<i>Braunkehliger Weisenpieper,</i>	OF THE GERMANS.

Specific Characters.—Feathers of upper parts black, distinctly bordered with grey, so as to give a splendid appearance to the plumage. Cheeks, throat, and breast of the male, and throat of the female, russet red, with longitudinal dark spots. Hind toe of equal length with the claw; the latter as much or more curved than that of the Rock Pipit.



RED-THROATED PIPIT.

Length of male six inches and a half; from carpus to tip three inches and a half; beak from gape three quarters of an inch; beak along ridge of upper mandible half an inch; tarsus nine tenths of an inch; hind toe two fifths of an inch; claw two fifths of an inch; middle toe seven tenths of an inch, and its claw a quarter of an inch. Length of female six inches; carpus to tip three inches and one tenth; beak from gape seven tenths of an inch; beak on upper ridge two fifths of an inch; rest as male.

THE Pipits are a very natural but distinct family, closely allied to the Wagtails on the one side, and to the true Larks on the other. They are also very similar to each other, differing principally in colour, and in the shape of the hind claw. Each species is in fact adapted to the circumstances of its existence. Our own British species illustrates this very well. The Tree Pipit, living principally on trees or bushes, has the hind claw short and curved; the Meadow Pipit, which lives more on the ground, has the hind claw double the length of the former, but nearly straight; while the Rock Pipit, which lives upon insects and seeds found on the mud of rivers, has the hind claw considerably curved, *which enables it to secure a firm footing on the mud.*

The Red-throated Pipit belongs to the Rock Pipit branch of the family; its claw being much curved. There has been much confusion about the bird in consequence of this fact being overlooked. Schlegel, Degland, and others have considered it a local variety of *A. pratensis*. But if it is a local variety or race of anything, it must be of *A. obscurus*, (Rock Pipit,) and not of the Meadow.

The Red-throated Pipit is an inhabitant of Northern Europe and Northern Africa. Middendorff, ("Sibirische Reise," vol. ii., p. 165,) remarks, "It is generally *Anthus rupestris*, (Rock Lark,) that is considered the northern representative of the genus. I have not met with one in North Siberia for years, and only *exceptionally* on the European coast of the Russian or Northern Ocean. There is in the extreme north of the old world the *A. cervinus*, Pallas, in great multitudes."

It is found plentifully in Egypt, Nubia, Greece, Turkey, and Barbary, during the winter; and Colonel Irby writes to me from Gibraltar,—“I obtained two specimens of this bird on the 10th. of March.” It also occurs in Italy, as stated by Salvadori, "Fauna d'Italia," as follows:—"This species is entirely distinct from *A. pratensis*. It is rare in Italy. Durazzo has found it in Liguria, and I found two individuals in the market of Firenze in May, 1861. Perini states it is found regularly during its passage in the Veronese, and

in all seasons and in all plumages, believing that it has nested there. It appears to me that this assertion wants confirmation. According to Temminck it appears accidentally in Sicily and Sardinia, but it appears, nevertheless, that in Sicily and Malta it is frequently seen during its migration. I have seen several specimens of it in the museum at Palermo, and Doderlein enumerates frequent annual captures of it. This Pipit frequently rests upon the trees while flying about them. Its song is a sort of cry, 'zip,' 'zip,' more acute, more silvery, and more frequently repeated than in the Common Pipit.—(Doderlein.) It appears to me probable that it nests in Sicily."

I have been favoured with the following very interesting account of the discovery of this bird in East Finmark, by Alfred Newton, Esq., of Elvedon, who has also most obligingly sent me the skins, from which my figures are taken:—

"On the 22nd. of June, 1855, a few days after our arrival at Wadsö, in East Finmark, Mr. W. H. Simpson and I, in the course of a birds'-nesting walk to the north-east of the town, to the distance perhaps of a couple of English miles, came upon a bog, whose appearance held out greater promise to our ornithological appetites than we had hitherto met with in Norway. We had crossed the meadows near the houses, where Temminck's Stint and the Shore Lark were thrilling out their glad notes, and traversed a low ridge of barren moor, when the solicitude of a pair of Golden Plovers plainly told us that they had eggs or young near us. A Dunlin's nest was speedily found, and the bird procured to identify it, for we had hopes of all sorts of waders in that remote district. A little while after, as I was cautiously picking my way over the treacherous ground, I saw a Pipit dart out from beneath my feet, and alight again close by, in a manner which I was sure could only be that of a sitting hen. I had but to step off the grass-grown hillock on which I was standing, to see the nest ensconced in a little nook, half-covered by herbage. But the appearance of the eggs took me by surprise, they were unlike any I knew, of a brown colour indeed, but of a brown so warm, that I could only liken it to that of old mahogany wood, and compare them in my mind with those of the Lapland Bunting. However there was the bird running about so close to me, that with my glass I could see her almost as well as if she had been in my hand. That she was a Pipit was undeniable, and thoughts of a species till then unseen by me began to dawn upon my imagination. I replaced the eggs without disturbing the nest, and carefully marking the spot, we retired. In half an hour or so we returned, going softly to the place, and Mr. Simpson

reaching his arm over the protecting hassock of grass, dexterously secured the bird in his hand as she was taking flight. I then at once knew, from her pale fawn-coloured throat, that the nest we had found belonged to a species which up to that time I believed had been known in Europe only as an accidental visitant,—the *Motacilla cervina* of Pallas, the *A. rufogularis* of Brehm.

A day or two later Mr. John Wolley returned from a Swan-upping expedition he had been making in the territories of our then imperial enemy. He told us that previous to his starting he had shot, somewhere in the neighbourhood of Wadsö, an example of a Pipit which had puzzled him a good deal. The bird, which, during his absence, had been kept in a cellar, was produced, unskinned and still fresh, but unfortunately half eaten by mice. A very short inspection served to show that it was a male of the same species as the hen we had, as above mentioned, taken from the nest. Being too much injured to be preserved, it was reluctantly thrown away.

In a week's time we were quartered at Nyborg, a small settlement at the head of the Waranger Fjord. Here willows and birches grew with far greater luxuriance, even to the water's edge, than lower down the inlet. Some even attained to nearly twice the height of a man, and formed thickets, which, the intervening spaces being exceedingly boggy, were not easily explored. In this secluded spot we found our Red-throated friend not un plentiful. We could scarcely go out of the house without seeing one, and in the immediate neighbourhood we procured several more identified nests, making a total of five, and a fine series of nine birds, all, of course, in their breeding plumage. We had also abundant opportunities of watching their habits, and, above all, of contrasting them with those of the Titlark, (*A. pratensis*,) which was not uncommon in the district, and to which this species has been so unjustly annexed as a variety. The two birds had, according to our observation, an entirely different range; *A. pratensis* haunting a station less wooded (saving the expression) than that of *A. cervinus*, which latter we found at times feeding on the sea-shore—a habit we did not there notice the former to indulge in. No one with ears either could for a moment be in doubt about their respective notes. It is true that the full song of *A. cervinus* did not differ so strikingly from the more feeble performance of *A. pratensis* as does, for instance, the joyous burst of *A. arboreus*, but it had an unmistakable resemblance to the louder and perhaps harsher strain of *A. obscurus*; and in all cases was sufficiently characteristic for one to be quite certain as to the nature of the performer, even when the individual was not in sight. In a

word, none of our party had any hesitation as to regarding *A. cervinus* as a *perfectly good species*.

I do not take upon myself a description of the specimens which I have had the pleasure of sending to Dr. Bree. A young bird, obtained at Mortensnæs, (between Wadsö and Nyborg,) July 16th., and as it was attended by its parents, (both of which were *well seen* by Mr. Wolley and myself,) could only have just left the nest, seems to differ only from the young of the Titlark in being of a ruddier complexion: a coloured drawing of it, made only a few hours after its death, is now before me. I have already mentioned what the eggs looked like, and it would be difficult in words to convey a better idea of them. All the nests I saw were simply built of dry bents, without any lining of feathers or hair.

I may however add that it was only in this restricted locality in East Finmark—between Wadsö and Nyborg—that we saw this bird, and I believe Mr. Wolley never met with it elsewhere, though a nest of unidentified eggs, brought to him, in 1854, from Nyimakka, (“v. p. 1066,”) a settlement on the upper part of the Muonio river, *may* possibly belong to this species. At Stockholm I saw in the possession of Conservator Meves, the ingenious discoverer of the cause of the bleating noise made by the Common Snipe, a living Red-throated Pipit, which had been taken in a garden near that town, where, I believe, it not unfrequently occurs in its autumnal migration.”

Middendorff expressly states that the bird he describes is the same as that of Keyserling and Blasius; and Mr. Newton's species is evidently that described by Middendorff, as *M. cervinus*. The male bird figured by the latter is less spotted on the breast, and the cheeks are more covered with russet.

Middendorff remarks, “This bird was found in both north and south Siberia. I shot a female in the Stonowoj Mountains, on the 26th. of May, consequently not on the passage. The rust-yellow of the Siberian specimen has a somewhat violet tint, (very similar to the colour on the breast of the Turtle Dove;) it covers the cheeks near the eyes, the throat, flanks, neck, and upper part of the breast. It is only found in this plumage from May to July. These colours are on the upper part of the breast, sharply bordered with whitish yellow; on the belly, pencilled blackish spots. The back is very dark, without reddish or yellowish tints, but the narrow border of the feathers is whitish or greenish grey. The four first wing primaries are of almost equal length, and nearly as long as the longest tertial, as pointed out by Keyserling and Blasius. The inner half of the white outermost tail feather brownish, and there is a pointed three-cornered white patch

on the tip of the inner web of the second feather; the rest of the tail feathers are black brown. When fresh the upper part of the beak was dark horn-colour; the under mandible at the point the same, but at its root light yellow; iris, dark chesnut brown; tarsus and toes brighter than iris, but the soles of the feet orange yellow."

The adult male sent to me by Mr. Newton, and marked "Nyborg, July 3-4, 1855, J. W. & N.," agrees in the main with the above description. It has however partly lost the rust-red on the cheeks, and the crop and flanks are more spotted. The feathers of the back, head, and nape are dark blackish brown, bordered with greenish grey, lighter on the head and nape; upper part of tail dark brown; underneath the throat and part of the cheeks and crop russet red, with a circlet of longitudinal dark spots on the crop. The abdomen, flanks, and under tail coverts creamy white, with a tinge of russet, the flanks being thickly covered with long longitudinal brown spots. Wings and tail underneath glossy mud-brown; tarsi and toes yellowish brown. The four first primaries of nearly equal length, the fourth shortest; tertials very long, the longest going beyond the end of the primaries. Upper and lower wing coverts, as well as tertials, broadly bordered with light yellowish or creamy white. The tail is emarginate, dark brown above, and earthy brown below; first lateral quill white, with a dusky patch on lower half of inner web; second quill brown, with a triangular white patch at the tip, exactly like the drawing of these two feathers given by Middendorff.

The female is half an inch less in length, and has the upper plumage precisely the same as the male; below the russet is confined to the throat and cheeks, while the front of the neck and crop are thickly covered with rich brown longitudinal patches and spots, contrasting with the rich cream-coloured ground of the under parts; the under tail coverts have the light yellow russet or cream-colour more pronounced than the abdomen; upper mandible and anterior half of lower dark brown; basal half of lower mandible yellowish; tarsi yellowish; feet darker.

My figure of this bird is taken from a specimen kindly sent me by Professor Newton. I have two sets of eggs from two different nests in my collection, sent to me by Dr. Meves, of Stockholm, and as the egg figured in the first edition was a dark specimen, I figure one of the above to show the limits of variation.

Figured also by Middendorff, *Sibirische Reise*, vol. ii.; Gould, *B. of E.*, pl. 140; Dubois, *Ois. de la Belgique*, liv. 51, pl. 97—a; Naumann, vol. iii., pl. 85, fig. 4.

Since the first edition two specimens of this bird have been captured

in Great Britain, one at Unst, in Shetland, and the other in the Isle of Wight, (see Hasting's "Handbook of British Birds.") It has, in consequence, been figured and described by Gould in his "Birds of Great Britain." As with one or two similar cases, I have not, however, thought it right to omit it from this work,—a fate which must, however, befall the rest of the genus.



Bristailed Lark.

GRANIVORÆ.

Family ALAUDIDÆ. (*Bonaparte.*)Genus ALAUDA. (*Linnæus.*)

Generic Characters.—Beak sub-conic, mandibles of equal length, the upper one convex, and more or less curved or straight. Nostrils basal, ovoid, covered by small feathers directly forwards. Feet: three toes in front, one behind, the middle joined at its base, with exterior claw of hinder toe, straight, or nearly so, and generally longer than the toe. Wings: first quill obsolete, or nearly so, the second shorter than the third, which is the longest; two of the secondaries as long as the primaries. Feathers of the head more or less elongated, and capable of erection.

SECTION I.—LARKS WITH ARCHED BEAKS.

Genus CETHILAUDA. (*Swainson.*)

Beak as long or longer than head, slightly arched.

BIFASCIATED LARK.

Alauda bifasciata.

<i>Alauda bifasciata,</i>	LICHTENSTEIN; Cat., 1823, p. 27.
“ “	TEMMINCK; Man., 1835.
“ “	SCHINZ. SCHLEGEL. DEGLAND.
<i>Certhilauda bifasciata,</i>	BONAPARTE, 1838.
<i>Alæmon desertorum,</i>	STANLEY. KEYSERLING & BLASIUS, 1840.
<i>Alouette double-bande,</i>	OF THE FRENCH.
<i>Zweibindige Lerche,</i>	OF THE GERMANS.

Specific Characters.—The false primary about one third the length of the first, which is shorter than the fourth. The two longest of the greater wing coverts very nearly as long as the fifth primary. Tail long, with the outer web of the most lateral quills white; posterior claw as long as the

toe. A broad black band across the white secondaries. Length eight inches six lines.—TEMMINCK, which is exactly the length of the female specimen sent me by Mr. Tristram, and which is figured.

THE English naturalist who confines his attention to his own fauna, a habit, the breach of which will afford him great pleasure and instruction, will be struck with the difference between the Bifasciated Lark and one or two others which I shall have to bring before his notice, and the well-known graceful forms of our Skylark or Woodlark. But the family is well linked together by similarity of structure and habit, which we shall see as we proceed.

The Bifasciated Lark is an inhabitant of Andalusia and Candia, and has been seen occasionally in Sicily and the south of France. Dr. Leith Adams informs me that this bird is also found in the deserts of Western Asia and Scinde. Its real home, however, is in the north of Africa, where its habits have been observed by Mr. Tristram, and by whom the bird which I have figured was shot. I extract the following from one of Mr. Tristram's papers on the ornithology of Northern Africa, in that excellent and useful work, the "Ibis," vol. i., p. 426:—"The Bifasciated Lark is universally distributed throughout the whole of the true desert. Unlike its congeners it seems to be a most solitary bird, and seldom, except in the breeding-season, have I seen two together. But a day rarely occurred when we did not obtain a few specimens on the march; and indeed this game formed our principal and favourite animal food. Although its uniform of inconspicuous drab renders it most difficult of detection on the ground, its restless habits soon attract attention. The moment it extends its wings the broad black bar across the snow-white secondaries attracts the eye, and renders it an easy mark. At first sight it reminded me much of a Plover, in the manner in which it rose and scudded away. Indeed there is nothing of the Lark in its flight, except in early morning, when I have watched it rise perpendicularly to some elevation, and then drop suddenly, repeating these gambols uninterruptedly, over exactly the same spot for nearly an hour, accompanying itself by a loud whistling song. It runs with great rapidity, and it requires no little speed of foot to capture a broken-winged victim. In the stomach of those I opened I found small coleoptera, sand-flies, and hard seeds.

There is something very graceful in all its movements, and the distinct markings of its wings, and the expansion of its long black tail, render it really a beautiful bird when flying.

The egg is very large—twelve lines by eight; the ground colour like that of *C. Duponti*, but the brown blotches smaller, and far more closely distributed, especially towards the broader end. It would not be easy to select it out of a series of some varieties of *Lanius excubitor*."

Mr. Tristram has described in the same paper another *Certhilanda* closely allied to this, under the name *C. Salvini*. The sterna, drawings of which are given, are certainly very different, even in important osteological characters. This bird is shorter by one fifth of an inch, more slender, and has a broader white band on the secondaries than *C. bifasciata*. Mr. Tristram suggests, however, it may be only a local race, although this idea is rather negatived by the fact that both he and Captain Loche had independently arrived at the conclusion that these were two species, and that the smaller one, though confined to the southern and south-eastern districts, never being found in the central or western, yet did not supplant the common bird in the districts where it occurred.

These observations lead Mr. Tristram into a very interesting discussion of the now exciting question of the variation in species. Though tempting, I have not room in this work to follow him in his remarks, but I must refer the reader to the first volume of the "Ibis," p. 429, et seq.

I may remark, however, that while Mr. Tristram thinks that observations he made on the Larks and Chats of North Africa, illustrate the views of Mr. Darwin and Mr. Wallace upon this subject, he distinctly repudiates the possibility of such a law acting beyond the sphere of species and race. "I do not," he says, "for a moment mean to imply that such birds as *Rhamphocoris clot-bey* have been developed out of any known European form, or that we are to presume so far to limit Creative Power, as to endeavour to explain the growth of desert species universally by the development of individual peculiarities."

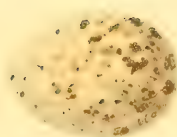
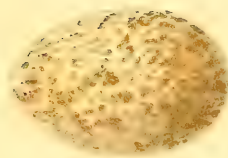
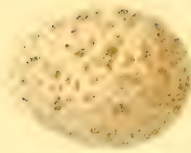
It will be well for science and themselves, if all naturalists will stop at the boundary line thus drawn by Mr. Tristram. That species do vary, no naturalist denies. That they do this beyond the peculiarities by which the species is recognised, *no one has ever yet proved*. "Naturam expelles furca, tamen usque recurret."

The adult male and female of the Bifasciated Lark do not differ in their plumage. The upper parts are of a light chesnut, or isabelle colour, tending more to grey on the top of the head and nape, and the upper tail feathers being darker chesnut, with lighter borders. The auriculars are mixed chesnut and black, and there is a slight

white superciliary ridge. Throat white; neck, abdomen, and under tail coverts, light creamy chesnut, with a row of dark spots where the white of the throat joins the crop. The primaries dark brown, having a white band commencing slightly on the second. The secondaries are white, with the dark brown of the primaries extended across in the form of a band, occupying their middle third. Tail same colour as primaries, except the two upper and two or three lateral ones, which are as stated in the specific diagnosis. Beak and feet yellowish; iris brown.

The young, according to Degland, have the head and neck greyish, with each plume marked with brown the length of the shaft; auricular region almost entirely white; crop more marked with black spots, and the colours of the plumage more strongly marked above and below.

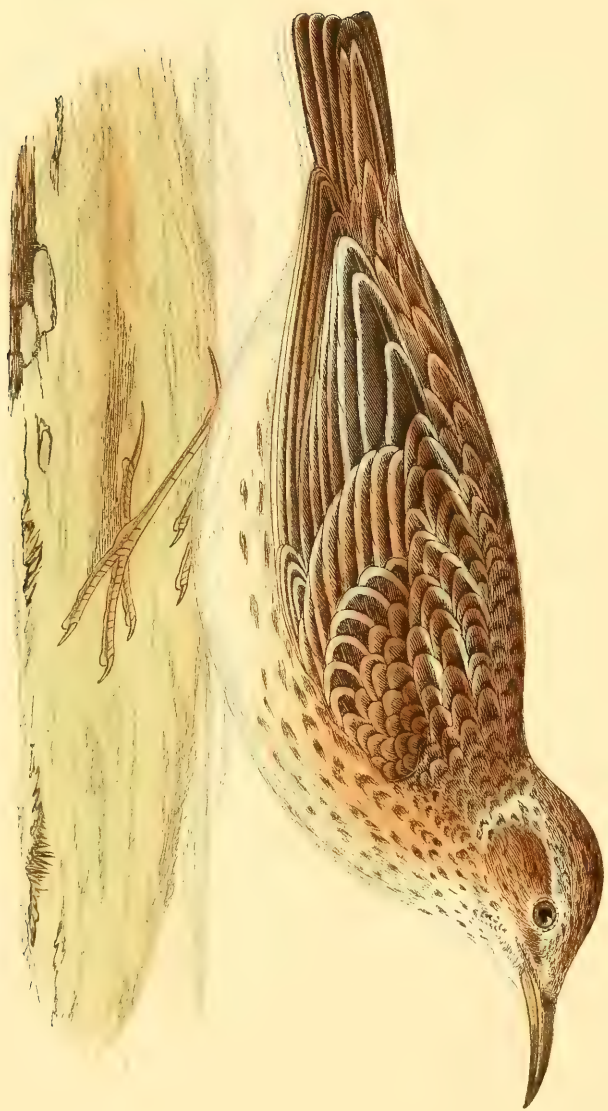
My figures of the bird and its egg are from specimens kindly sent me by Mr. Tristram. The bird, which is a female, was shot at Wednça, December 10th., 1856. It is also figured by Temminck et Laug., pl. col. 393; Gould, pl. 168; Cretsch., Voy. de Rüppell, pl. 5; Dresser, B. of E.



DESCRIPTIVE LIST.

2. BIFASCIATED LARK.

3. DESERT LARK.



DUPONT'S LARK.

GRANIVORÆ.
 Family ALAUDIDÆ.
 Genus ALAUDA. (*Linnæus.*)

DUPONT'S LARK.

Alauda dupontii.

<i>Alauda dupontii</i> ,	VIEILLOT; Faun. Fr., p. 173, 1828.
“ “	TEMMINCK; Man., 1835. LESSON.
“ “	SCHINZ. SCHLEGEL. DEGLAND.
“ <i>ferruginea</i> ,	MÜHLE (?) Orn. Griech., p. 35.
<i>Certhilauda duponti</i> ,	BONAPARTE; Consp. Av., p. 246.
“ “	TRISTRAM; Ibis, vol. i., p. 427.
“ “	LOCHE; Cat., p. 85.
<i>Alouette Dupont</i> ,	OF THE FRENCH.
<i>Dupont's Lerche</i> ,	OF THE GERMANS.

Specific Characters.—Beak as long as the head, and distinctly curved. Two outer tail feathers white, with a dusky band on the inner web; the second brown black, with the outer web white. Hinder claw shorter than the toe, and distinctly curved.

Length of male sent me by Mr. Tristram, which is figured, six inches and three quarters; from carpus to tip four inches; tail two inches and a half; beak seven eighths of an inch; tarsus one inch; hinder claw three eighths of an inch; hinder toe half an inch.

THIS bird has been considered by many ornithologists as a variety of the Skylark, and Keyserling and Blasius have even described it as a monstrosity. Homeyer, in Cabanis' Journal, heft 3, 1859, p. 204, speaks of it doubtfully as a species, and gives in the same article some excellent advice about the too prevalent habit of species-making. In "Naumannia," part 3, 1858, Professor Blasius, however, after giving the various opinions which have been held about this species

by authors, states that he has at length received a specimen from Algeria, which he admits is that described by Temminck, and must be considered as distinct.

With the birds before me, I cannot help expressing surprise that *A. dupontii* should ever have been confounded either with the bird last described, or with the Skylark. It is perfectly distinct from each, as the specific characters above will shew, and I have much pleasure in being able to add something to its natural history, not only by giving a figure of the bird shot by Mr. Tristram, but also a drawing of the egg, which I believe has never before been figured, and which rare and precious specimen that gentleman was kind enough to trust to me for illustration.

Dupont's Lark is found in Syria, some parts of Barbary, and in the south of Spain. Its occurrence in the centre of Europe is, however, only accidental. Degland says it is frequently found exposed for sale in the markets of Marseilles. The real home of this interesting species is, however, among the sandy deserts of Northern Africa, where its habits have been observed by the Rev. H. B. Tristram and Captain Loche. From the description of the former in the "Ibis," vol. i., p. 427, I quote the following:—

"This elegant and delicately-marked bird, a link between *Galerida* and *Certhilauda*, beautifully illustrative of the gentler gradations by which Nature glides from one type to another, is, I believe, the very rarest of all the Larks of the Sahara. I found it only in the far south, in the Wed Nçà, at which place it was also obtained by Captain Loche a few months afterwards. Neither of us ever saw more than two or three pairs. The white outer tail feathers give it the appearance at first sight of our common Skylark, for which indeed it passed with my companion, who was the first to shoot it. Captain Loche obtained a nest of four eggs, one of which he kindly presented to me. As might have been expected, the eggs differ much from the typical characteristics of the Lark. They are very round, nine lines and a half by eight, of a soiled white colour, with pale brown blotches sparingly scattered over the surface, bearing a strong resemblance to small varieties of *Lanius excubitor*, but with an ivory-polished surface."

It is quite clear that all the doubts raised as to the specific distinctness of this bird, have arisen from an imperfect acquaintance either with its skins or habits.

The adult male in winter plumage (Mr. Tristram's specimen is marked December, 1856,) has all the upper parts of the body a rich brown, of lighter and dark shades, variegated with greyish on the

edges of the feathers; top of the head darker, with a greyish longitudinal band across the vertex, and a similar one mottled grey and black, forming a kind of collar at the nape and round the neck; ear coverts clear brown, with a light grey patch above the eyes, and laterally on each side of the base of the upper mandibles; primaries and secondaries dark brown, with light chesnut edges; two upper tail feathers and upper tail coverts light chesnut brown, darkest in the centre; the first lateral tail feather white, with black brown internal edge; the second black brown, with a white external edge; the six central feathers dark blackish brown. The under parts are of a dirty white, thickly spotted on the throat with dark brown longitudinal marks, and on the cross and flanks with the same shaped spots of russet brown; feet, beak, and iris brown.

Temminck says that the young differ from the adult by the large borders of clear isabelle colour, which mark all the feathers of the upper parts of the body; the black spots of the inferior parts are larger than in the adult. It is only seven inches long.

My figure of this bird is from a specimen sent me by Mr. Tristram, marked "Waregla, Dec., 1856, ♂." The egg is the one alluded to in the quotation I have made from that gentleman's paper in the "Ibis."

The bird has also been figured by Vieillot, *Faun. Franc.*, p. 173, pl. 76, fig. 2; Roux, *Ornith. Prov.*, vol. i., p. 285, pl. 186; Werner, *Atlas du Manuel*; Dresser, *B. of E.*

GRANIVORÆ.

Family ALAUDIDÆ.

Genus ALAUDA. (*Linnæus*.)

SECTION II.—LARKS PROPERLY SO CALLED.

Beak rather slender, and nearly straight and conical.

DESERT LARK.

Alauda lusitania.

<i>Alauda lusitania</i> ,	GMELIN; Syst., vol. i., p. 798.
“ “	LATHAM; Ind., vol. ii., p. 500.
“ “	DEGLAND.
“ <i>isabellina</i> ,	TEMMINCK; Man., 4th. part, 1840, p. 637.
“ “	SCHLEGEL, 1844. BREE; first Edition.
<i>Annomanes isabellina</i> ,	BONAPARTE; Consp. Avium, p. 244.
“ “	TRISTRAM; Ibis, vol. i., p. 422.
“ “	LOCHE; Cat., p. 83, No. 159.
<i>Alouette isabelle</i> ,	OF THE FRENCH.
<i>Isabellfarbige Lerche</i> ,	OF THE GERMANS.

Specific Characters.—False primary one third the length of the first true one, which is shorter than the next four, and about equal in length with the sixth. Plumage beautiful isabelle or rich almond-colour. Hind claw slightly arched, and about the same length as the toe. Length of male specimen sent me by Mr. Tristram, six inches and a half; carpus to tip four inches; tail three inches; tarsus four fifths of an inch; toe three tenths of an inch; claw three tenths of an inch; beak seven tenths of an inch.

THERE is likely to be some confusion among the Desert Larks, in consequence of the adoption of similar names to designate different birds. Thus the present bird is called the Desert Lark, but Mr.

DESERT LARK.



Tristram gives the names of "Pale Desert Lark" and "Little Desert Lark" to two other North African species, while we have *C. desertorum* applied to the Bifasciated Lark. Then again, while Schlegel, Degland, and others refer the present bird to the *Alauda deserti* of Lichtenstein, Captain Loche, in his "Catalogue of Algerian Birds," following Bonaparte, makes the latter a distinct species, under the name of *Annomanes deserti*. Then again we have the name *Annomanes isabellina*, applied to the subject of the present notice by Prince Ch. Bonaparte, while he gives to a closely-allied species the name of *Galerida isabellina*. Temminck described our bird as *Alauda isabellina*, while Rüppell gave the same designation to the *Galerida isabellina* of Bonaparte. It must therefore be strictly borne in mind that the species found in Europe is the *Alauda isabellina* of Temminck, and the Desert Lark of Tristram. Mr. Dresser having given the name *isabellina* to a crested Lark in his "Birds of Europe," I have adopted Gmelin's name of "*lusitania*" for the present species.

This beautiful and elegant species was first described as European by Temminck, in the last edition of his "Manual," in 1840. Its European localities are Greece, south of Spain and Portugal. It inhabits also Egypt, Arabia, and the north of Africa.

For a knowledge of its habits, hitherto recorded as unknown, we are indebted to Mr. Tristram, ("Ibis," vol. i, p. 242,) who writes:—"A. *isabellina*, Temminck, occurs first on leaving the Hauts Plateaux in small numbers, but is more plentiful further south, inhabiting the open plains, where it is difficult to conceive how it finds subsistence. Its lateral range is wide. I have obtained it from the frontiers of Morocco to Arabia Petræa. It is sedentary, and breeds both in the Algerian Sahara and the wilderness of Judæa, in both which localities I have taken the nest, neatly formed of grass in a depression under a tuft of weeds, and with four eggs, in size nearly equal to those of *A. cristata*, but never so elongated; measuring eleven lines by eight, of a rich cream-colour, blotched especially towards the large end with brown and red spots. In its habits this very distinct species exhibits so far as I am aware, no distinctive peculiarities, living in small flocks, and poising itself in the air like its congeners. Its notes are few, though not unmelodious; but its song will bear no comparison either in volume or sweetness with that of the Skylark. It varies considerably in size, but its average length is about six inches and a half."

Dr. Leith Adams considers this bird as probably identical with *M. phæniciuroides*, Blythe, "I. A. S. Beng.," xxii, p. 583. It is found in Scinde and Cashmere. Dr. Adams gives the following measurements of the Indian species:—"Length about six inches; wing three

inches and one sixth; first primary one inch and one eighth, being an inch and five eighths shorter than the second; the second is a quarter of an inch less than the next three, which are equal; tail two inches and three quarters. Bill to gape five eighths of an inch; tarsus seven eighths of an inch; hind claw five sixteenths of an inch. Legs brown."

The male and female have the upper parts of a beautiful glossy dark fawn-colour, very much like that of our Almond Tumblers. The feathers shine and decompose the light like shot silk. Primaries and tail feathers brown, but bordered more or less deeply with the prevailing isabelle tint; below, the colour, though the same, is lighter, and the throat is whitish, mottled with dusky spots. Under wing coverts and part of the inner webs of wing feathers below, rich silky dark fawn; ends of primaries brown. There is the usual tendency to form a crest of the head feathers. Beak yellowish horn-colour; feet, legs, and iris clear brown.

The young before the first moult, according to Degland, have the colours brighter, with the feathers of the upper parts of the wings and tail bordered with grey.

My figure of this bird is from a female specimen shot by Mr. Tristram, in the Northern Sahara, December 2nd., 1856. The egg is also from a specimen taken by the same gentleman in that locality.

The bird has been figured by Temminck and Laugier, pl. color. 244, fig. 2, from an Arabian specimen; and by Mr. Dresser, B. of E.



SWALLOW (HORN-TOUNG) J.A.R.

GRANIVORÆ.

Family ALAUDIDÆ.

Genus ALAUDA. (*Linnaeus*.)Sub-genus CALANDRELLA. (*Kaup*.)

PALLAS'S SHORT-TOED LARK.

Alauda pispoletta.

Alauda pispoletta,
Calendritis pispoletta,
Calandrella pispoletta,
Alaudula Cheleensis,

PALLAS.
 CABANIS.
 SWINHOE. DRESSER.
 SWINHOE.

Specific Characters.—Inner secondaries much shorter than in *A. brachydactyla*, reaching only to within about an inch of the tip of the first primary.—DRESSER.

THIS bird is closely allied to the well-known Short-toed Lark. It differs from it, however, in the structure of the wing, as detailed above, and according to the custom of modern naturalists it must be admitted as a distinct species, until the day arrives when writers on natural history are able to say what a species means.

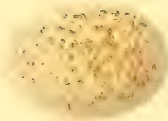
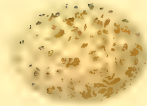
The home of this bird is especially the Steppes of Sarpa, between the Caucasus and the Volga, from whence I have a large series of eggs collected by Herr Glitsch, and sent to me through Von Heuglin.

Mr. Blandford, however, reports its capture in Persia, and Mr. Hume from India. Mr. Swinhoe also tells us that it ranges as far as China.

I take the following description from Mr. Dresser's "Birds of Europe:—"Adult male. Upper parts dark grey, the feathers having a central dark mark; quills dark brown, edged with dirty white; secondaries darker in the centre and lighter towards the edge; the

inner secondaries much shorter than in *C. brachydactyla*, reaching only to within about an inch of the tip of the first primary; wing coverts dark brown, broadly edged with light earth brown; outermost tail feathers white, having a black line on the inner webs, the next in order blackish brown on the inner web, white on the outer web; the remainder blackish brown, imperceptibly edged with pale earth brown, the centre ones washed with light brown. Above and below the eye a pale dull buff-white stripe; chin white; sides of the neck spotted with dark brown; auriculars marked with brown; under parts white on the breast and flanks, striped with dark brown; beak dull horn-colour; legs light brown; iris dark brown. Total length 6.6 inches, culmen 0.5, wing 3.8, tail 2.3, tarsus 0.85, hind toe with claw 0.6. Female similar to the male, but somewhat smaller in size."

The figure of the bird is from a specimen sent me by the Rev. Canon Tristram. The figure of the egg is from one of a large series collected in Sarpa by Herr Glitsch. The bird has also been figured by Mr. Dresser, B. of E.



1. PALLAS'S SHORT-TOED LARK.

2. ANDALUSIAN SHORT-TOED LARK. 3. ITALIAN SKYLARK.



ANDALUSIAN SHORT-TOED LARK

GRANIVORÆ.

Family ALAUDIDÆ.

Genus ALAUDA. (*Linnaeus.*)Sub-genus CALANDRELLA. (*Kaup.*)

ANDALUSIAN SHORT-TOED LARK.

*Alauda bætica.**Calandrella bætica,*

DRESSER; B. of E., part 21.

THIS is another of the Short-toed Lark series, which was discovered by Lord Lilford in Andalusia in 1872, and which has been described by Mr. Dresser as a distinct species in his "Birds of Europe."

Lord Lilford described this bird as *Calandrella minor*, Cab., in a letter inserted in the "Ibis" for 1872, p. 98, in the following words:—

"During my visit to the south of Spain last spring, I fell in near Seville with a Short-toed Lark, which I at once recognized as distinct from the ordinary *C. brachydactyla*, from which species it is distinguished by its grey shade of colouring, as well as its distinctly striped upper surface and breast. Mr. Sharpe, to whom I submitted my specimens, has come to the conclusion, after careful comparison, that the Lark is not new, but is *C. rebouda* in full breeding plumage."

Mr. Dresser adds:—"Quite lately, when working at the Short-toed Larks, Mr. Howard Saunders brought to me a single specimen which had been sent to him from the south of Spain, and which he thought would prove to be distinct. After comparing it with a large series of Short-toed Larks, I was convinced that it was a perfectly new bird, and advised him to describe it; but on showing it to Lord Lilford, he at once pronounced it to be the same as the two specimens above referred to, and on obtaining these specimens from Mr. Sharpe, this proved to be the case. That it is a perfectly distinct and good species there can be no doubt, as the present bird is very

much darker than any specimens of either *C. minor* or *C. pispoletta*, and has the breast and flanks very strongly striped with broad stripes of blackish brown, larger and more distinct than those on the breast of *Alauda arborea*. Judging from the series of specimens of *C. minor* I have examined, amongst which is one, a female shot from her nest, and thus in full breeding plumage, that bird has the markings much duller, and less clearly defined in the summer than in the winter dress; and had Mr. Sharpe been able to compare the two specimens of the present species with *C. minor* in full breeding plumage, he would at once have seen that it could not possibly be that bird. Besides the difference in colour, the present species has on the average a shorter wing than *C. minor*, the average being 3.0 to 3.4 in the present species, against 3.45 to 3.6 in *C. minor*."

Lord Lilford does not know much about the habits of the bird, having only seen it in small flocks in March and April in the wheat lands on the banks of the Guadalquivir, and believes it to be a spring migrant to southern Spain: its nesting habits and eggs resemble those of *C. brachydactyla*.

Mr. Dresser remarks of the eggs supplied to him by Lord Lilford that they are easily distinguished from those of *C. brachydactyla* and *C. pispoletta*. "They have the ground colour pure white, and are blotched with pale purplish brown underlying shell patches or spots, and dark hair brown overlying surface blotches. They are smaller than the eggs of *C. brachydactyla*, having the markings larger and more scattered over the surface of the shell; and I cannot better describe them than by comparing them to very minute eggs of *Galerita cristata*. In size they vary from $\frac{3}{40}$ by $\frac{2}{40}$ inch to $\frac{3}{40}$ by $\frac{2}{40}$; whereas those of *brachydactyla* in my own collection vary from $\frac{3}{40}$ by $\frac{2}{40}$ to $\frac{3}{40}$ by $\frac{2}{40}$, and those of *C. pispoletta*, obtained by Mr. Blandford, from $\frac{2}{40}$ by $\frac{2}{40}$ to $\frac{3}{40}$ by $\frac{2}{40}$."

A male bird sent to me by Lord Lilford, and killed in April, 1872, has the head, back, and part of its upper wing coverts mottled with light and dark brown, the latter predominating, and the markings longitudinal. The greater wing coverts are lighter, two browns, faintly margined with lighter colour. Primaries and secondaries unicolorous hair brown, lightly edged with grey, the outer web of the first primary being narrow and grey. Tail dark brown, the outer feathers on each side white, with a broad patch of brown on the inner web. Throat and breast mottled with light grey and dark brown. Abdomen dirty white. Flanks brown, with a tinge of buff. Inner wing light brown. The first primary the longest, the others successively a trifle less. Legs brown. Mr. Dresser says the iris is

brown, but there is no intimation on Lord Lilford's label. Length five inches and a half, wing three inches and a half, tarsus three tenths of an inch, hind toe with claw seven tenths of an inch, beak from gape six tenths of an inch.

Female same as male.

My figures of this bird and its egg are from specimens kindly sent to me for the purpose by Lord Lilford.

GRANIVORÆ.

Family ALAUDIDÆ.

Genus ALAUDA. (*Linnaeus*.)

ITALIAN SKYLARK.

Alauda cantarella.

<i>Alauda cantarella</i> ,	BONAPARTE; List et Icon. de Faun. Ital. Revue, p. 75.
“ “	KEYSERLING ET BLASIUS; Wirbelt., p. 37.
“ “	SCHLEGEL; Revue, 75.
“ <i>intermedia</i> ,	SWINHOE.
“ <i>italica</i> ?	GMELIN.

Specific Characters.—Ground colouring of back white, tinged with rufous, and distinctly contrasted with the long brownish black longitudinal markings; throat pure white; markings on the back clear and distinct. Length six inches; beak half an inch.

THIS is a smaller form of the English Skylark, which replaces our bird on the sunny plains of Italy. That it is a race of *A. arvensis* there is no doubt, and as such, and not as a distinct species, it is introduced into this work. It was first observed and described by Prince Charles Lucien Bonaparte, in his introduction to the Fauna of Italy, p. 5, and is entered in the “Conspectus Genera Avium” as probably the bird named *italica* by Gmelin, which, if correct, gives its distinctive character a long history, and justifies my name of Italian Skylark. It is also entered in the “Comparative List of European and American Birds,” at No. 249, as *Alauda cantarella*, Nobis. How then *Alauda cantarella*, Bonaparte, can be considered a myth, as it is by Mr. Dresser in his “Birds of Europe,” or upon what plea its name is to be changed into Mr. Swinhoe’s *A. intermedia*



it is difficult to understand. The first figure of this bird, with notice, was that given by Dubois (as stated in my first edition) in his work upon the Birds of Europe, pl. 101 (*a*), and no one can possibly mistake this figure for that of our Skylark. The following are the remarks of M. Dubois (*op. cit.*):—

“The Prince Charles Lucien Bonaparte is the first who has observed and described this bird, which inhabits Italy. In the beautiful collection of M. le Baron Selys-Longchamps there is a specimen which was captured in the neighbourhood of Liège. *L'alouette cantarelle* is smaller than the Skylark. Its plumage differs equally.”...“As this bird was observed in Italy by a naturalist with great care, and as it was found in great numbers, it was impossible to avoid the conclusion of its being a distinct species, and our doubts were completely dissipated. This Lark has not been before represented, and ornithologists will be gratified by my giving them a faithful engraving, which is the first published of this bird.”

Alda cantarella, as shown above, occurs in China, and Canon Tristram has added two other localities for this bird, in his paper on the Birds of Palestine, “Ibis,” 1866, p. 287:—“*A. arvensis* we found only in winter on the sea-coast in large flocks; and it does not appear to remain in any part of the country in spring. Probably these flocks are migrants from the far north, as they never penetrate inland. There their place is taken by the closely-allied species *A. cantarella*, Bonaparte, of which there were myriads, in vast flocks, about Beersheba in winter, where there were none of *arvensis*. We were unable to find their summer residence, and did not revisit the south at the breeding-season. Mr. Swinhoe’s Chinese specimens are precisely similar; and I possess a specimen, also identical, which I shot more than twenty years ago at Geneva.”

By the kindness of the Rev. Canon Tristram I have been able to examine four specimens from different parts of the world, namely,—India (two), Beersheba, and Umballah, and on comparing them with my own series of *A. arvensis* I find the following differences:—

The birds from the Holy Land are smaller than any of my specimens, while that from India is equal to the largest English specimen in my possession, both in total length, and from carpus to tip of wing, four inches and a quarter, while the latter in the specimen from Beersheba is only four inches and one tenth. The beak in all the *cantarella* skins is shorter and otherwise smaller than in the English bird. The feet are the same in dimensions; in one specimen the hinder claw is longer in the English skin.

Placed together on their backs a marked difference in the plumage

is observable. The English skins of *arvensis* are dark grey from the throat to the under tail coverts, the spots being of a rufous brown, giving to the whole under surface a dark dingy colour. In *cantarella*, on the other hand, the groundwork is much lighter,—in fact, quite white on the abdomen and throat; the spots are dark hair brown, while there is a band of rufous more or less distinct across the crop.

Placed on their bellies, the lighter colour of *cantarella*, and the more distinct contrast between the dark longitudinal streaks or spots and the rufous-tinged groundwork is striking and unmistakable. *Arcensis*, seen above, is a dark rufous, with the longitudinal spots running into it so as to give the whole a more uniform appearance, with an indistinct separation of the colours, while in *cantarella*, so seen, the contrast, as above stated, is marked.

A male bird, killed at Beersheba on the 2nd. of March, 1864, kindly sent me by Canon Tristram, has the under parts yellowish white, with distinct spots on each side of the throat, leaving the latter clear, and dark hair-brown stripes on the lower anterior neck and crop, and at the base of the latter a transverse band of rufous; tail feathers below and wing lining silky grey, with the under wing coverts and shoulders white. Flanks greyish white, except where crossed by the rufous band above. The upper parts light rufous groundwork, with distinct brownish black longitudinal bands more pronounced on the head, less shown on the nape, broader and more mingled together on the back and upper tail coverts. Primaries slaty brown, with the outer webs bordered with white; the second, third, and fourth true primaries cut away at the end. Secondaries darker brown, with light dusky rufous borders and white tips. Greater wing coverts dark brown, with dusky rufous borders all round. Upper tail feathers dark brown, with lighter edges; the inner dark brown entirely, and the outer white, with a light brown mark on the inner web, the second on each side having the outer web white. Beak horn-colour. Legs light brown, feet darker. Length six inches, beak from gape half an inch, tarsus nine tenths of an inch, hind claw half an inch.

The bird figured, a male, and the egg, were kindly sent to me by the Rev. Canon Tristram, and were taken in the Holy Land. The sexes hardly differ from each other.



BLACK LARK.

GRANIVORÆ.

Family ALAUDIDÆ.

Genus ALAUDA. (*Linnæus.*)

SECTION III.—LARKS WITH THICK BEAKS.

BLACK LARK.

Alauda tartarica.

<i>Alauda tartarica</i> ,	PALLAS; Voy., 1776.
“ “	GMELIN; Syst., 1788.
“ “	LATHAM; Ind., 1790.
“ “	TEMMINCK; Man., 1820.
“ “	VIEILLLOT. CUVIER. LESSON.
“ “	SCHINZ. SCHLEGEL. DEGLAND.
“ <i>mutabilis</i> ,	GMELIN; Syst., 1788.
“ <i>nigra</i> ,	FALK; p. 796.
<i>Melanocorypha tartarica</i> ,	CH. BONAPARTE; List, 1838.
“ “	KEYSERLING AND BLASIUS, 1840.
<i>Calandra nigra</i> ,	DUBOIS; Ois. de la Belg., liv. 73,
	p. 102 a.
<i>Alouette nègre</i> ,	OF THE FRENCH.
<i>Steppenlercher</i> ,	OF THE GERMANS.

Specific Characters.—No false primary; the three first true ones nearly equal; the fourth eight tenths, and the fifth seven tenths, of an inch shorter than the third; claw one fifth longer than toe. Beak one tenth of an inch longer than broad. Plumage black in spring, yellow grey in the autumn, with the wings and tail black. Length of male specimen sent me by Mr. Tristram, seven inches and three quarters; carpus to tip five inches and a quarter.

THE Black Lark is an inhabitant of northern climes. In Europe it is found in the precincts of the Wolga and Istych Rivers in Russia.

It has been captured rarely and accidentally in Germany, and still more rarely in Belgium. On the authority of Dubois we have the record of one being trapped in the neighbourhood of Brussels, in 1850, and which he found in the market for sale. The person who caught it assured M. Dubois that there was a large flock, but he was only able to get one. M. Croegaert is also quoted by M. Dubois as having taken one in the neighbourhood of Anvers, in 1852, and kept it alive during several weeks. According to Pallas it is found in the neighbourhood of Anvers, in Tartary, between the Volga and Iaik Rivers, whence it emigrates during the winter. It occurs also in the Steppes of Asia, and in the south of Africa.

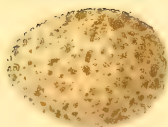
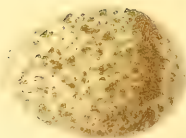
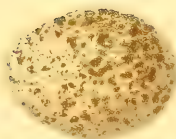
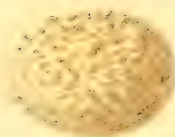
"This bird," says M. Dubois, "inhabits during the summer in large flocks, the most extensive and infertile plains, where they may be seen from time to time on the sand-hills. They emigrate in autumn, and arrive during the rigorous winter at the villages and towns on their route, whence they penetrate to the interior. They return to the Steppes during the earliest days of spring. Their flight is to short distances, not very quick, and rather low. It is in general a careless bird; its song is not very good, and it generally sings seated upon a hillock; its call note is heard (very rarely) when it rises into the air. Its nourishment is insects and their larvæ, worms, and seeds; it makes its nest upon the ground in a little excavation, and knows very well how to hide it in spite of the great aridity of the soil. The nest is made without art or skill; it is composed of blades of grass, roots, and moss: in the interior small rootlets, and sometimes feathers. It contains from four to five eggs."

The bird differs much in plumage at different seasons and ages. In summer the entire plumage of the male is black: beak yellow, with the point brown, and in the breeding dress in spring it is, as represented in my figure, black, with the feathers of the back, rump, and flanks more or less bordered with white. In the autumn it is yellow grey, with scale-like spots, (according to Degland,) on the crop; stomach, wings, and tail black, the quills of both wing and tail bordered with grey white.

The female has, according to Temminck, all the plumage of a paler black, with the forehead greyish, and all the feathers of the neck, of the throat, and crop finely bordered with grey.

The young resemble the female, but the plumage has more of a brown shade, the brown of the feathers broader and more yellowish, the tail and wing quills being bordered with the same colour.

My figure is taken from a male specimen, from the Volga, sent me by Mr. Tristram. The egg is from my own collection, sent to me by



1. BLACK LARK.

2&3. CALANDRA LARK.

4. SIBERIAN LARK.

Herr Schlüter, of Halle, with the following remarks:—" *Alauda tartarica* nests usually in the Steppes of Kirgisch. Its favourite summer residence is especially ten miles from the Volga. The time for the eggs is from the end of April to July. The nest is generally made by the side of, or underneath, a small growth of stiff reed-stalks, partly cut off, of *Artemisia*, and particularly of broad-leaved plants; also behind stiff balls of must; it seldom stands quite alone, open. The number of eggs three to five, generally, however, it is four."

The bird is also figured by Buffon, pl. enl. 650, f. i.; Gould, B. of E. pl. 161; Vieillot, Galerie des Oiseaux, vol. i, p. 259, pl. 160, adult male; Gmelin Nov. Comm. Petrop. xv., p. 479, pl. 23, fig. 2; Werner, Atlas du Manuel, pl. lith. of the young of the year.

GRANIVORÆ.
Family ALAUDIDÆ.
 Genus ALAUDA. (*Linnæus.*)

CALANDRA LARK.

Alauda calandra.

<i>Alauda calandra,</i>	BRISSON; Ornith., vol. iii., p. 352, 1760.
“ “	LINNÆUS; S. N., 12th. edit., 1766, vol. i., p. 226.
“ “	GMELIN; Syst., 1788.
“ “	LATHAM; Ind., vol. ii., p. 496, 1790.
“ “	MEYER AND WOLFF; <i>Tasch. der Deuts.</i> , p. 261, 1810.
“ “	VIEILLOT; <i>Dict. et Faun. Franc.</i> , 1816.
“ “	TEMMINCK; <i>Man.</i> , 1820. LESSON, 1831.
“ “	SCHINZ; <i>Eur. Faun.</i> , 1820.
“ “	SCHLEGEL; <i>Revue</i> , 1844.
“ “	DEGLAND, 1849.
<i>Melanocorypha calandra,</i>	CH. BONAPARTE; <i>List</i> , 1838.
“ “	KEYSERLING AND BLASIUS, 1840.
“ “	MÜHLE, 1844. LOCHE, 1858.
“ “	SALVIN AND TRISTRAM; <i>Ibis</i> , 1859.
<i>Calandra bimaculata,</i>	DUBOIS.
<i>Alouette calandre,</i>	OF THE FRENCH.
<i>Kalander Lerche,</i>	OF THE GERMANS.

Specific Characters.—Beak compressed, and the upper mandible curved and overlapping the under one, so as to form a sharp point—as long again as broad. First primary the longest, the second nearly as long, and about the same difference in size between that and the third; fourth an inch shorter than the third, and about the same difference in size between the fourth and fifth and the fifth and sixth. All the tail feathers except the two upper ones tipped with white, and the two laterals almost entirely of that colour.



CALANDRA LARK.

Length eight inches; carpus to tip five inches and three tenths; beak three quarters of an inch; hind claws three fifths of an inch; hind toe two fifths of an inch.

THE Calandra Lark, one of the most conspicuous species of the genus, is also perhaps the best known of this section, being very common in many parts of the south of Europe. It is found in Italy, Portugal, and Spain, Roman States and Sicily, Sardinia, south of France, Greece, the Crimea, and the Steppes generally of the south of Russia. It is observed rarely in Germany, and, according to Temminck, never in Holland, but it is included, figured, and described by Dubois among the birds of Belgium. It is very abundant, Colonel Irby writes, at Gibraltar.

Salvadori, "Fauna d'Italia," says that in Italy it "is stationary principally in the south. It first appears plentifully in Tuscany by the sea-shore. (In the Pisa plains it is accidental.) It becomes still more abundant in the Roman and Neapolitan sea-bords. It is very common in many places in Sicily and Sardinia. It is rare and accidental in Piedmont, Lombardy, and Venice. In Malta some are found in March and October. I have noticed that the bird is not so shy in Sardinia as in Rome and other places."

Savi says, "This bird is one of the best songsters, imitating with its soft and flexible notes to perfection all the birds it hears singing. One may say that it has not a note proper to itself, its song being no other than an agreeable and masterly re-union of the notes of other birds. While free upon its wings, ascending or descending in circles in the air, its song is now the gurgle of the Skylark, now the love-song of the Linnet, and now that of the Bunting. In a minute it passes on to imitate the winter whistling of the Meadow Pipit, the Wagtail, and the Greenfinch. Again it adroitly returns to an imitation of the song of the Skylark, and counterfeits all these voices so perfectly that the most expert naturalist might be deceived. It nests in meadows and cultivated fields. The eggs are four or five, having a rosy ground with ash-coloured spots and obscure points."

In the north of Africa it is mentioned by Mr. Tristram as swarming on the coasts, but scarcer in the interior, so as hardly to lay claim to the Sahara as a locality. It is also included by that gentleman among the birds of Palestine, (Ibis, vol. i.) It is plentiful in Turkey, and in the Steppes of Southern Asia.

Like most of its tribe, except our Skylark, the Calandra seems to prefer wild and desolate plains to cultivated ground for its residence. In other respects, however, its habits are very similar. Dubois

remarks, "They often fly together in flocks, and have a clear, beautiful, and varied song, which is heard as often when flying as in repose; notwithstanding the perfection of their song, it is impossible for amateurs to keep them in their homes, their voice is too loud. When taken young they may be taught to imitate the voices of all kinds of birds. They often mix together the notes of Thrushes, Finches, Tits, Quails, Linnets, etc., and will even imitate the croaking of the frog."

Captain Blakiston, in his description of the birds found by him in the Crimea, ("Zoologist," 1857, p. 5509,) gives an amusing account of his first meeting with this bird, which will bear quoting:—

"I ask any naturalist, is there any pleasure in observing a new species for the first time? Surely you have a peculiar feeling within you; you eagerly wish for a specimen; and I will answer for it that you do not rest till you have obtained one. Suppose that you are a field ornithologist, you take the first opportunity, and although the weather is cold and windy, with snow covering the ground, you trudge off with your fowlingpiece to where you observed the birds. I did this on the 2nd. of January, and found the bird I was in search of on the Karani hill, within sight of Sebastopol. I soon procured a couple, and after waiting in the snow behind an old bit of a wall for some time, knocked over six more at a shot: they were Larks, but the largest I had ever seen. I had studied Yarrell well when making out the Short-toed Lark. What could they be? To make sure, however, I turned over the leaves again that evening in my hut, but they were not there. I was at a loss. 'However,' I said to myself, 'they are Larks, but somewhat approaching to Buntings.' So I marked them in my journal as specimens of 'large Lark,' and noted the measurements and other points. This was the Calandra Lark, (*Alauda calandra*,) as I afterwards learned from England."

The Calandra Lark nests on the ground among lucerne or corn. Its nest, according to Dubois, resembles much that of the Crested Lark; it is made of blades of grass and roots, lined with moss and root-fibres, sometimes with wool and feathers.

It builds twice a year, in April and June, and lays from four to six eggs, of a dirty white, covered with numerous spots of olive green, thickest generally at the larger end, though sometimes equally diffused. Long diameter one inch or nearly, short three quarters of an inch.

The adult male in breeding plumage has the upper parts rich brown, with the feathers bordered with russet. Inferior parts bluish

white, with two large black spots on each side of the neck, forming a kind of half-collar, and separating the white throat from the russet and brown spots, with which the crop is mottled. Wing primaries blackish brown, the outer web very lightly bordered with white; the secondaries broadly tipped with that colour; under wing coverts and under part of primaries uniform blackish brown, relieved by the white shaft of the first quill, and the white tips of the secondaries. Two upper tail feathers brown, bordered with lighter, the two laterals white, the rest rich dark brown tipped slightly with white; beak yellowish below and on the sides, dark brown along the upper ridge; feet yellowish brown; iris grey.

According to Degland, in the male after moult, or in autumn, the feathers above are darker in the centre, and their borders more russet. The plumage of the female resembles that of the male in autumn, but the head and beak are smaller, and the demi-collar in the neck is narrower.

The young after the first moult have the plumage darker than adults, the upper feathers and those of the crop bordered with whitish; beak and feet yellowish.

Accidental varieties have been found white, spotted with white, grey, or black, and others of an isabel colour.

My figure of this bird is from a male specimen sent me by Mr. Tristram, shot at Berronghina, May 28th., 1856. I have also selected for illustration two eggs from a series sent me by the same gentleman. I have a large series, about thirty, of the eggs of this bird in my collection. They were taken in South Russia, which is the great breeding country of this species. It is not, however, necessary to change Canon Tristram's specimens as figured in the first edition.

This bird has also been figured by Buffon, pl. enl. 363, f. 2; P. Roux, Ornith. Prov., pl. 185, f. 1 adult, f. 2 head of young; Gould, B. of E., pl. 161; Bouteille, Ornith. du Dauph., pl. 30, f. 3; Vieillot, Faun. Franc., pl. 76, f. 1; Naumann, Naturg. Neuc. Ausg., pl. 98, f. 1; Edwards, pl. 268; Dubois, Ois. de la Belg., part 61, pl. 102; Dresser, B. of E.

GRANIVORÆ.
 Family ALAUDIDÆ.
 Genus ALAUDA. (*Linnaeus.*)

SIBERIAN LARK.

Alauda sibirica.

<i>Alauda sibirica,</i>	GMELIN; Syst., 1788.
“ “	SCHLEGEL, 1844. DEGLAND, 1849.
“ <i>calandra affinis,</i>	PALLAS; Iter. App., No. 15.
“ “ “	LATHAM; Ind.
“ <i>leucoptera,</i>	PALLAS; Zoog., i., p. 518, No. 147, pl. 33, f. 2.
“ “	BLAKISTON, in “Zoologist,” vol. xv., p. 5509.
<i>Phileremos sibirica,</i>	KEYSERLING AND BLASIUS; Die Wirbelt., p. 37, 1840.
<i>Melanocorypha leucoptera,</i>	BONAPARTE.
<i>Alouette de Sibirie,</i>	OF THE FRENCH.
<i>Sibirische Lerche,</i>	OF THE GERMANS.

Specific Characters.—First primary longest, but nearly equal to second; third about as much shorter than the second as the fifth is less than the fourth; the fourth seven tenths of an inch shorter than the third. Tail very narrow, the outer feathers white; hinder claw one fifth longer than the toe. Length eight inches and one fifth; carpus to tip four inches and seven tenths; beak three fifths of an inch long by three tenths broad; hind claw half an inch to two fifths of an inch long.

THIS bird was thought by Pallas and Latham to be a variety of *A. calandra*. It is, however, a very distinct species, and the rounder form of the beak, the much slighter figure, the more pointed wing, and the difference in comparative length of the fourth primary, remove it altogether from that bird. The late Mr. Blyth considered it to be a typical *Calandrella*.



SIBERIAN LARK.

The Siberian Lark is an inhabitant of Siberia, Tartary, and Southern Russia, and rarely of Poland. It is also included by Captain Blakiston among the birds shot by him in the Crimea.—“*Zoologist*,” 1857, p. 5509. It has been once taken in England, and figured by Gould, and will be by Newton. It is, however, a very rare bird, and I do not think a single English capture ought to induce me to omit it from my work. The example in question was shot at Brighton among a flock of Snow Buntings, one of which it was at first considered to be. Mr. Dawson Rowley, however, with the assistance of Professor Newton, determined it to be a Siberian Lark. These captures of rare European birds at Brighton, and Brighton for the most part only, are singular. This bird is contained in Messrs. Elwes and Buckley’s list of the birds of Turkey, (“*Ibis*,” 1870, p. 195,) where it is said to appear in hard winters.

Its habits are described as similar to those of the rest of the family. By the kindness of Mr. Tristram I am able to give a figure not only of the bird but its egg, both of which that gentleman received from Dr. Middendorff.

The bird has at first sight much the appearance of a Bunting. Captain Blakiston thus describes his meeting with it, (“*Zoologist*,” 5509:—

“A few days after the 5th. of January I was again on the *qui vive*, as a friend told me he had seen some Buntings white below and rusty coloured above; with this hint I made for a camp, where he said some had been shot, the ground being covered with snow, and sure enough, on looking over a heap of small birds, I found the Calandra Lark, Common Bunting, and another new to me, which I put down for distinction as ‘Lark Bunting, No. 20,’ the skin as well as the sternum of which I preserved. The same officer a day or two afterwards kindly sent me a specimen of the same bird, the White-winged Lark, (*Alauda leucoptera*,) a male.” This was determined afterwards by Mr. Gould, and Captain Blakiston gives a long and accurate description of it in its winter dress.

M. Ch. F. Dubois has an excellent figure of the bird, both in its young and adult plumage, with the following remarks:—“Though this bird is so rare in Europe, M. le Baron Selys-Longchamps possesses one, which was taken in the environs of Liège, in December, 1855. Having had it preserved, he kindly brought it to me to add to the supplementary list, before the family of Larks was concluded. The habits and propagation of this bird are very little known; its voice is not so agreeable as that of the Skylark, though its movements are equally elegant. It nests like it on the ground, in a slight excavation.

It is not very timid, and allows people to approach rather closely without fear."

A male specimen, sent me by Mr. Tristram from the Volga, without date, but from the freshness and brightness of the plumage, evidently in its nuptial robes, has the upper parts rich brown, bordered with russet, lighter on the nape; the top of the head, lesser wing coverts, and upper tail coverts, a brilliant red russet, which gives the bird a marked and distinctive character. The inferior parts are of a bluish white, with here and there a russet feather; the throat, crop, and sides of the neck spotted with brown and russet, the latter colour pervading the ear coverts. Under wing coverts and secondaries pure white, the primaries blackish brown below; above, the primaries and secondaries are dark brown, the latter at first white on the inner web, becoming nearly entirely so in the middle. Tail feathers brown, with more or less white on their inner webs; the laterals quite of that colour. Beak livid, the upper mandible darkest; tarsi russet; feet dark brown.

My illustrations of the bird and its egg are from specimens sent me by Mr. Tristram; the former is a male. They were obtained from the keeper of the Imperial Museum of St. Petersburg, and are stated to be from Dr. Middendorff.

It has been also figured by Pallas, as *Alauda leucoptera*; by Dubois, in his "Oiseaux de la Belgique," part 74, pl. 102—B, a very good figure of the adult male and the young; and by Mr. Dresser, B. of E.



BLACK-HEADED BUNTING.

GRANIVORÆ.

*Family FRINGILLIDÆ. (Bonaparte.)**Genus EMBERIZA. (Linnæus.)*

Generic Characters.—Beak short, strong, conical, compressed, and sharp-pointed; the edges of both mandibles curved inwards, with the commissure more or less oblique; the upper mandible narrower than the inferior one, and internally in the palate, or roof, there is a bony and projecting tubercle. Nostrils basal, round, and partly hidden by small feathers in front. Feet with three toes in front and one behind, the front ones entirely divided; the hinder toe carries a claw, short and curved: in front the claws are rather long, curved, and strong. The wings with the first primary slightly shorter than the second and third, which are the longest in the wing. Tail forked or slightly rounded.

BLACK-HEADED BUNTING.

Emberiza melanocephala.

<i>Emberiza melanocephala,</i>	SCOPOLI, 1798. GMELIN. LATHAM.
“ “	TEMMINCK. CUVIER.
“ “	KEYSERLING ET BLASIUS.
“ “	SCHINZ. SCHLEGEL. DEGLAND.
<i>Tanagra melanictura,</i>	GULDENSTADT.
<i>Xanthormus caucasicus,</i>	PALLAS.
<i>Fringilla crocea,</i>	VIEILLOT.
<i>Euspiza melanocephala,</i>	BONAPARTE.
<i>Bruante-Crocote,</i>	OF THE FRENCH.
<i>Schwarzköpfiger Ammer,</i>	OF THE GERMANS.
<i>Zigolo Capinero,</i>	OF SAVI.
<i>Black-headed Bunting,</i>	LATHAM, nec BEWICK vel YARRELL.

Specific Characters.—The first primary equal in length to the second, and slightly longer than the third; primaries and tail light brown, the latter without any white markings. Back and rump rich russet, tinged with

yellow. Length six inches and a half; from carpus to tip three inches and three quarters; tail three inches; beak from gape seven tenths of an inch; tarsus nine tenths of an inch.

THE Buntings are a very natural group, and easily distinguished, by their peculiar characters, from the rest of the family. They live in fields, woods, gardens, road-sides, or banks of rivers and marshes. They feed upon farinaceous seeds and insects. The sexes are always distinctly marked, the males having the most vivid coloration. The young resemble the females, except in having duller colours, and being more spotted. Temminck says none of the European species moult more than once, while the exotic species do so regularly, the colours of the male changing considerably, having in summer very brilliant colours, but in winter the quiet and modest plumage of the female. Degland remarks,—“The greater number, independently of the usual moult which takes place towards the end of summer, have also in spring a change in coloration. This change is occasioned by the under part of the plumage, which is always the most brilliantly coloured, being in the spring uncovered by the rubbing away of the edges of the feathers, which are of a duller tint.” The Buntings nest on the ground, on banks, or among grass, in bushes, shrubs, or reeds. Those species which have the hind toe long and straight have been separated by Meyer, under the generic term *Plectrophanes*. The others form a very closely-allied and distinct family, notwithstanding which Kaup has divided the genus into eight.

Of the European species different authors vary in the numbers which they assign to that fauna. Temminck, in the last edition of his “Manual,” describes sixteen species, which is the number also given by Schlegel. Degland adopts this list, with the exception of one addition, *E. borealis*. Bonaparte gives nineteen species, in five different genera. Gray, “Hand List,” gives sixteen species. Of these, five, and both the species of *Plectrophanes*, are found in the British Isles.

The name “Black-headed Bunting” has been unfortunately given by modern English authors to our well-known bird the “Reed Bunting.” As, however, the subject of this notice can lay claim to a much older title, and as I do not feel justified in creating a new one, I hope English ornithologists will use the name “Reed Bunting,” first given, I believe, by Pennant, to our British species.

The Black-headed Bunting is an inhabitant of the southern parts of Europe and Asia Minor. It inhabits the Caucasus, and is very common in Georgia, about Tiflis, and in Greece, and is not rare in

Dalmatia, where it has the name of Ortolan, though a very different bird from that which bears this name in France. It is common throughout the Levant, and is sufficiently so, according to Temminck, in Istria, in the neighbourhood of Trieste, in the bushes and slopes of the hills which border the Adriatic. It has been occasionally, but accidentally found in Lombardy, Provence, Saxony, and in Germany, in the neighbourhood of Vienna, and has occurred in the west of Spain, the south of Austria, and in the neighbourhood of Marseilles (Jaubert.) It has been recorded as a visitor to Heligoland in a single instance by Herr Gätke, ("Ibis," 1862;) and in the "Ibis" for 1868, Mr. Gould records a reported capture of this species at Brighton, in November of that year. It was a female, with *eggs in the ovarium*. Certainly the most singular captures are said to occur at Brighton! Mr. Wright writes to Mr. Dresser of its occurrence in Malta.

Lord Lilford ("Ibis," 1860, p. 139,) says of this bird:—"Arrives in Corfu and Epirus in great numbers in April, and remains to breed, disappearing in September; has an agreeable song." Mr. W. H. Simpson ("Ibis," 1860,) writes that the gardens and vineyards of Mesolonghi and Southern Ætolia, are full of this bird.

Lieut. Sperling, "Ornithology of the Mediterranean" ("Ibis," 1864, p. 281,) writes, "I observed lots of Black-headed Buntings in the high reeds at Butrinto; but they were very artful in dodging out of sight." Messrs. Elwes and Buckley ("Birds of Turkey," "Ibis," 1870, p. 192,) remark, "Mr. Robson informs us that this species is common, and arrives in flocks at the end of April, frequenting the lower grounds, and breeding in gardens." The Rev. Canon Tristram, in his paper on the Birds of Palestine, (P. Z. S., 1864, p. 446,) writes,—“Returns from the south in the beginning of April, and is then very numerous, both on the wooded hills and among olive groves, where it pours forth its varied note from the tops of the highest branches. The nest is placed in a bush not far from the ground; and its eggs mark at once the separation of this genus from *Emberiza*.” Mr. Tristram has adopted Bonaparte’s generic name of *Euspiza* for this species, and certainly the character of the egg warrants him in doing so if he likes. I am however content to wait till the unmistakable Bunting character of the bird itself has become more evolved in the spizine direction. It is singular that naturalists should have such an inclination to change the names which are much more closely connected with the groups in which they are classed than with those towards which they are supposed to diverge.

I copy the following from Mr. Dresser’s “Birds of Europe,” which

strengthens my opinion:—"Mr. Robson, of Ortukeny, sends us some interesting particulars. '*Its habits (E. melanocephala) are similar to those of the Common Bunting*, often sitting on the top of a bush or low tree, and pouring forth its simple notes, or flying from one elevated part to another, with its legs hanging down. The nest is built not far from the ground, in a rose bush, vine, or bramble; indeed they are often found in brambles. The gardeners who find their nests in rows of peas, allow both peas and sticks to stand until the young are fledged, and anxiously protect them, (kind fellows,) wondering very much what Europeans intend to do with small birds' eggs. They also consider it a cruelty to take the eggs from the old birds. These birds depart early in the autumn, as none of them are taken like other species of Buntings by bird-catchers. Professor von Nordmann states that when the female takes wing she utters softly *tchéh.*'"

It sings very agreeably, preferring to perch on some post in the open country.

It nests upon shrubs, particularly, according to Degland, on "*the Bariurus aculeatus*, and not far from the ground. It lays from four to five whitish eggs, which are covered with very small spots and dots of a more or less ashy grey; some specimens are of a greenish white, with spots of a rust brown at the largest end."

In a long and interesting letter, full of valuable information, which I have received from Dr. Leith Adams, from Malta, I extract the following remarks about the bird I am now noticing:—"Euspiza melanocephala, Bonaparte, is almost the prototype of *E. simillima* of Blythe; the latter authority fixes on the following as distinctions. The closed wing of *simillima* is three inches and a quarter, instead of four inches, and altogether it is not so large a bird. The species frequents southern India, and until Mr. Blythe made the above diagnosis, Indian authors considered it identical with *E. melanocephala*. I have seen three specimens, and could not make out any decided distinctions. Might not climate account for the smaller size?"

Deputy Surgeon-General Stewart informs me that "vast flocks of this bird pay winter visits to the grain crops of the north-west provinces of India, the Punjab, and the Deccan. I saw a few stragglers on a range of hills, four thousand feet above the sea, in the Bombay Presidency, November, 1870. They were busy with some tall-standing grain crop."

Count Mühle says, "It comes (into Greece) at the end of April, and I have for many years observed its arrival. On a clear bright morning in spring the hedges near the coast are often covered with

them, though previously none were to be seen. It builds and breeds on the overgrown hills, and goes away early in August. During the breeding time the male sits on the tops of the bushes, and lets its agreeable, simple, Yellowhammer-like song be continually heard. It is very stupid, and not at all shy; indeed it is frequently killed, by those in quest of it, with a stick alone. It is at the same time strange that the female is so seldom seen. I have only met with a very small number. When they first arrive the male has the rust-red plumage of the head in abundance, but this is by degrees rubbed off." Lindermayer does not endorse Count Mühle's statement about the paucity of females.

Brehm, in Bädcker's work upon European eggs, says, "Very little is known about the nidification of this bird. Its eggs, of which it lays five, are very similar to those of the other Buntings. One variety is like that of the Snow Bunting. They are of a blue greenish ground, delicately marked with dark and reddish grey spots, mostly at the larger end. In form they are a longish oval, and the shell is very soft and brittle."

I copy the following from Salvadori, "Fauna d'Italia:"—"This bird arrives rather rarely in Italy. Ranzani mentions an individual taken in the neighbourhood of Rimini. A few are captured almost annually in Liguria. In Veronese Perini found many individuals, and also a nest containing four young ones. It does not appear to be so rare in Venetia, where it can easily pass on to Dalmatia and other parts of the Levant, where it is very common. Count Camozzi, of Bergamo, has in his collection two specimens from Venetia. It has only been found once in Sicily. Bonaparte at first believed this species to be confined to Sardinia, but he afterwards corrects the error, and I doubt if it has ever been found there."

Doderlein ("Avifauna del Modenese e della Sicilia") says of this bird:—"It arrives along the coast of Dalmatia towards the middle of April, and it fixes itself chiefly in the wooded country, and in cultivated grounds and cornfields. Early in May it begins to construct its nest, which it generally makes in the low weeds which cover the trunks of trees, or else it is attached close to the ground to corn stems. It is intertwined with straw, and small roots of the *Agnus castus*. It is of an ovoid flask form, and it lays four or five ashy white eggs, covered with brown spots, which I think occurs twice in the year. During incubation, the male habitually perches above among the trees, by preference on the summit of the cherry-tree, from which it repeatedly emits a strong, vibrating, monotonous song, which terminates in a broken cadence, and which may be nearly expressed

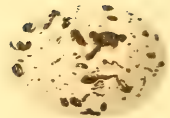
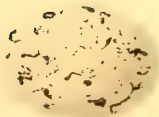
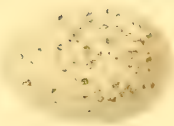
as '*cirririri, ciriri.*' It has another querulous note, similar to that of the female, which it repeats from time to time when frightened, and which may be rendered by '*ciâ, ciâ.*' Chased from the tree, it skims over the surface of the cornfields with a low, continuous, regular flight, till it arrives at another tree, when it rises quickly, perching on the highest bough, from which it returns to its monotonous song. This bird is a great devastator in the cornfield, clinging to the stems of wheat, and stripping the ears of corn nearest to maturity, eating the grain in part, and letting the greater portion fall to the ground. It is very tender over its young, the two birds guiding and defending them until they grow strong. About the middle of July this bird begins to disappear, so that by the first days of August there remain no individuals in the plains. They are difficult to keep in confinement."

The male of this beautifully-marked bird has the breeding plumage as follows:—Head, nape, and auditory regions deep black. The whole of the back, scapularies, and upper wing coverts rich dark russet, tinged with yellow; chin and all the inferior parts bright citron yellow. Wings and tail brown; the primaries lightly edged with grey; edges of secondaries broad and rufous. Beak bluish grey; feet yellowish brown. Iris dark brown.

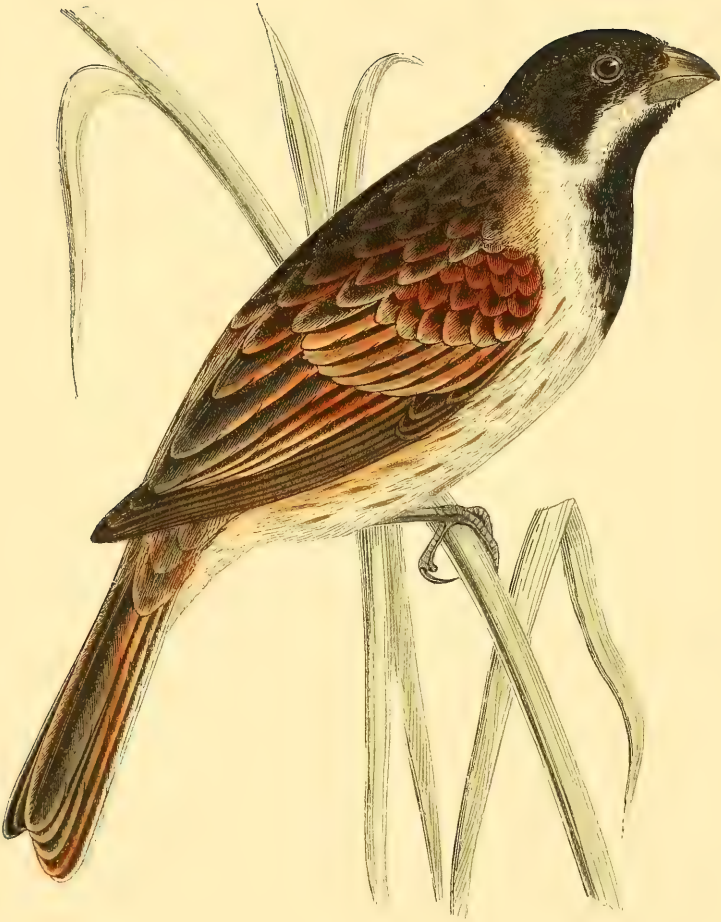
The female in breeding plumage is brown above, each feather streaked down the centre with darker colour, more shown in the young bird. Wings brown, the quills being broadly margined with yellowish brown, as are the middle and greater coverts, the lesser coverts being like the back; tail feathers light brown, bordered with yellowish white. Lower parts yellow, with a tinge of ash-colour, more shown on the breast.

My figure of this bird is taken from a specimen kindly sent to me by Mr. Tristram. It is from Greece. The egg is from my own collection, being one of four taken by Dr. Krüper in Greece. I have also a series taken at Smyrna, which do not differ much from the above.

The bird has also been figured by Temminck in his Atlas; Roux, Ornith. Prov.; Gûldenstadt, Nov. Com.; Naumann, Naturg. Neue Ausg., pl. 101, f. 2; Gould, Birds of Europe, pl. 172; Dresser, Birds of Europe, pl. 72. Four figures of the egg are given in Bâdeker's illustrations of European eggs.



1. BLACK-HEADED BUNTING.	2. PINK BUNTING.
3. GRASSHOPPER BUNTING.	4. MEADOW BUNTING.



GRANIVORÆ.

Family FRINGILLIDÆ. (*Bonaparte.*)Genus EMBERIZA. (*Linnaeus.*)

MARSH BUNTING.

Emberiza pyrrhuloides.

<i>Emberiza pyrrhuloides,</i>	PALLAS; Zoog., t. 49, 1.
“ “	BONAPARTE; Faun. Ital.
“ <i>palustris,</i>	SAVI. BONAPARTE. TEMMINCK.
“ “	SCHINZ. SCHLEGEL. BREE, 1st. ed.
“ <i>caspia,</i>	MENETRIES.
“ <i>schæniculus</i> var. β .,	PALLAS.
“ <i>Pallasii,</i>	CABANIS.
“ <i>schæniculus</i> var. <i>minor,</i>	MIDDENDORFF.
“ <i>polaris,</i>	MIDDENDORFF.
<i>Schænicula pyrrhuloides,</i>	BONAPARTE.
<i>Bruant des Marais,</i>	OF THE FRENCH.
<i>Sumpfammer,</i>	OF THE GERMANS.
<i>Passera di padule,</i>	SAVI.

Specific Characters.—Beak short, thick, and strong, the upper mandible curved; as broad at the base as long. Rump grey, and marked with brown; under tail coverts white; primaries slightly bordered with russet, the first being shorter than the fourth. Length of a young male sent me by Mr. Gould, seven inches; from carpus to tip three inches and a fifth; beak three tenths of an inch; tarsus one inch.

THE Marsh Bunting is an inhabitant of the south of Europe, being found especially in the south of France, Italy, and Sicily.

It was at first described as a distinct species by Savi, in his “Ornitologia Toscana,” but had been previously figured by Pallas, in

his "Zoography," t. 49, as *E. pyrrhuloides*, which name will of course stand. Temminck doubted whether it was distinct from *E. schæniculus*, in anything except the shortness, stoutness, and convexity of the beak, and in the greater distinctness and brilliancy of the colouring. Bonaparte, on the contrary, not only admits the Marsh Bunting as a distinct species, but adds another, which is said to be intermediate in character between this and *schæniculus*, under the name of *S. intermedia*, the *E. intermedia* of Michahelles, the *E. canneti* of Brehm; and he places the three in a new genus, that of *Schænicola*. Roux also denies that the Marsh can ever be confounded with the Reed Bunting; and Degland adds several points of distinction to those given by Temminck, which I have incorporated after verification in my specific diagnosis. Degland thinks that Temminck did not know the true *E. palustris*, but that the specimens upon which he assumed its identification with *E. schæniculus* were, in fact, larger specimens of this latter species. In a note which I have just received from Professor Blasius, of Brunswick, that distinguished naturalist places this bird as a variety of *E. schæniculus*.

Such being the difference of opinion about the specific distinctness of this bird, let us hear what Savi himself says about it. I copy the following from his "Ornitologia Toscana," tome secondo, p. 92:—"The Zigolo of which I speak has been for some time in the hands of ornithologists. The Bunting, of which there is a drawing in the 'Storia degli Uccelli,' under the name of *Migliarino di Padule*, is clearly recognized by the form of its beak as belonging to this species. In the Museum of Turin, and in that of the Jardin des Plantes at Paris, it is preserved as a variety of *Emberiza schæniculus*. Signor Dott: Pajola, sent it to me last year from Venice, describing it as a new species. I had long fancied it was distinct, but as on examination of the distribution of colour, the proportions of its quill feathers, etc., I did not find any characters to distinguish it from the other species, and knowing then nothing of its habits, I had never made it known as new, and, to avoid making a mistake, I placed it in the Museum of Pisa as *E. palustris*. Since then, however, having been able to make some new observations upon the form and habits of the two species, I am persuaded they are decidedly different, and the principal reasons which induce me to form this opinion are the following:—

The distinctive characteristics of *E. palustris* and *E. schæniculus* are the greater size of the former, its head larger in proportion to the rest of the body, its tarsi proportionally shorter and thicker, its upper plumage more distinct in coloration, and its beak differing in form and size.

Now as these characteristics only consist in a greater development of parts, and a stronger degree of colour, it may be objected that this is owing to difference in age; that is to say, that the *Migliarino di Padule* in growing old may acquire the proportions and colours of the *Passera di Padule*. As far as size and colour are concerned, there would be no difficulty in understanding this, but it is not so easy to account for the difference in the beak, and almost impossible to conceive such a change in the *form and dimensions of the masticatory organs, and such an alteration in the other bones of the face and skull*, in the adult age of animals, in whom the consolidation of bone rapidly occurs. But that I might have positive proof, I kept several Reed Buntings in my house for about a year, and, as I had supposed, no change in the form or dimensions of the beak occurred. Besides this, the habits of the two birds prove them to be of different species. *E. schæniculus* lives among bushes, and always remains on ground far from water, feeding upon seeds; while *E. palustris* is always found established near water, climbing up the reeds, and feeding on the muddy banks of ponds. Then the two species are never found mixed together in the same flock. I have killed as many as ten in the same flock without finding one *schæniculus*, and, what is worthy of note, without in such a number finding one with the beak of the same size and form as in that bird, which would naturally have been the case, had they been varieties of the same species."

At page 325 of the third volume, we have also the following interesting account of the habits of this bird:—"The Black-headed Bunting is found in Tuscany during the summer, inhabiting watery places covered with reeds. A great number hatch in the marshes of Castiglione, so that in crossing the intricate passages made by the fishermen cutting the reeds, which rise so high as to exclude all but a small portion of sky, the low moaning of the wind is uninterrupted, except by the distant voice of the Tarabugio, (Bittern,) which sounds shrill over the dead water, or the continual croaking of the *Passera di Padule*, which then remains obstinately hidden. It has a voice similar to the *Rena esculenta*, (frog,) but it is even more sonorous."

Count Mühle, in his "Beitraege zur Ornithologie Griechlands," says, "*Emberiza pyrrhuloides* is considered to be a distinct species from *E. schæniculus*. All the proportions are larger and stronger, the head much thicker and longer, the beak peculiarly arched, unlike that of any other species, the colouring of the plumage is much brighter, and in broader masses, the black on the head and breast much deeper. It breeds in the impenetrable reed beds, coming

when they are green. When the swamps are swollen it is not to be got at, but later it arrives on the borders of these swamps, and then it is to be discovered by its contrast with the blood colour of the club reed. It is very lively; the male clings to the joints of reeds, and utters, like *Salicaria turdoides*, its crisp song. It is not so plentiful as *E. schæniculus*, and goes away earlier."

Enough has, I think, been said to prove the specific distinction of this bird. Of its nidification Degland tells us:—"It nests on the edges of marshes, among rushes, between the roots of aquatic plants. Its nest is composed exteriorly of the filaments of vegetables, dry plants, and is lined with horse-hair. Its eggs, in number from four to five, are of a dull white, distinctly marbled with brown, (according to Temminck,) or (according to Crespon,) of a white, shaded into greyish, and marked with a multitude of small brown spots most numerous at the larger end."

"In manners and habits the Marsh Bunting differs but little from the Reed Bunting. Its note, according to Crespon, is briefer and stronger. The same author remarks that it breaks the stems of the reeds to eat the pith, and that it also feeds on insects."

I collect the following notes of this bird from the "Ibis:"—"Common in Corfu and Epirus in winter. A few remain to breed on the island."—(Lord Lilford, 1860, p. 139.) "Mr. Robson says it is common (in Turkey;) we saw it in Macedonia in February."—(Messrs. Elwes and Buckley, "Ibis," 1870.) "This species, which differs from the foregoing (*E. schæniculus*) in its size, its stronger bill, and especially its note, is found in the east of Spain, and there are specimens in the Museum of Valencia. In November, 1867, I observed several birds of this species from a short distance; but perched as they were on the reeds of the Segura, then a swollen flood, it would have been useless to shoot at them. Had I not watched them I should certainly have attributed their hoarse note to the frogs, which swarm in the neighbouring 'acequias.'"—(Mr. Howard Saunders, on the Birds of Spain, 1871, p. 218.)

I take the following from Salvadori, "Fauna d'Italia:"—"This species inhabits the same regions as the Reed Bunting (*E. schæniculus*), and it also nests there, arriving in April and departing in September. A few remain during the winter. At present it has not been met with either in Sardinia or Malta. It nests in Venetia, Modena, Tuscany, and Sicily. It builds, like the Reed Bunting, among the rushes and roots of aquatic plants. The eggs are rather larger than those of the Reed Bunting. According to Savi, this species differs from the preceding one, not only by its larger dimensions, but in the different

form of the beak, and by the tarsi being proportionately shorter and thicker. It also differs in its habits. It never leaves the reed-beds like *schœniculus*, and the two species never mingle together. Finally, whilst *schœniculus* is very good to eat, this bird has a strong smell of formic acid. With all this, it is difficult to consider the two species as perfectly distinct, since, whilst in the two extremes from the individual with the little sharp beak to that with the strong and obtuse beak, there are specimens intermediate, and the same may be said of the tarsi. It is this intermediary character which is the origin of the *E. intermedia* of Michahelles. Individuals thus constituted are very common in Italy."

The following is Savi's description:—The male in breeding plumage has the beak thick, compressed laterally, curved above and below, obtuse at the point, and of a black colour. It rather resembles a Sparrow's beak, but is shorter. Head, neck, throat, and middle part of breast black; there is a large white band beginning at the angle of the beak, and uniting itself with the white of the flanks and abdomen. Scapularies black, broadly margined with fulvous chesnut; the rest of the upper feathers ashy black, margined with chesnut. Flanks and abdomen white; upon the flanks longitudinal spots of obscure black. Primaries black, margined with chesnut, the lesser wing coverts having a broader margin of fulvous chesnut; under wing coverts white. The first tail feather white, with a large black wedge-shaped spot on the inner web at the base, and a smaller one at the tip; the second tail feather black, with a white wedge-shaped spot at the tip on the inner side; the other tail feathers black; the two middle feathers edged with brownish yellow. Feet rather robust, and obscurely black; claws black.

In autumn the adult male has the feathers of the head, throat, neck, and middle part of chest black, shaded off to the point. The white feathers of the neck become so shaded towards the tip, as almost to obscure the white. All the upper feathers have a bay margin, more extended, terminating in brownish yellow.

The female has the vertex, sides of the head, and neck of an obscure chesnut colour, with black spots; nape, back, and wings dark brown; a brown band on the cheeks terminates near the ear, the region of which is covered by a nearly black spot; throat and neck white, shaded with russet; from the angle of inferior mandible there is a mottled black band extending to the chest; chest and flanks white, shaded with russet, and covered with long obscure spots.

My figure is that of a young male kindly sent me by Mr. Gould.

This bird has also been figured by Pallas, Zoog., t. 49, 1; in the

Stor. Uccelli, tav. 336, (a good figure of male;) by Roux, Ornith. Prov., pl. 114, male in autumn, fig. 2 head of female; Ch. Bonaparte, Faun. Ital., pl. 35, f. 1 male in spring, f. 2 female, f. 3 young; Gould, B. of E., pl. 184.



PIPER LUNULIG.

GRANIVORÆ.

Family FRINGILLIDÆ. (*Bonaparte.*)Genus EMBERIZA. (*Linnæus.*)

PINE BUNTING.

Emberiza pithyornus.

<i>Emberiza pithyornus,</i>	PALLAS; 1776, Voyages de l'Empire de Russie, vol. viii., Appendix, p. 60.
“ “	NAUMANN; Vög., t. 104, 3.
“ <i>leucocephalus et</i>	
“ <i>dalmatica,</i>	GMELIN, 1788.
“ <i>pithyornus,</i>	LATHAM; Ind., 1790, et Syn., iii., p. 203, et p. 256, (as Dalmatian Sparrow.)
“ “	TEMMINCK; Man., 2nd. ed., 1820.
“ “	BONAPARTE; Birds, 1838.
“ “	KEYSERLING ET BLASIUS; Die Wirb., 1840.
“ “	SCHINZ; Eur. Faun., 1840.
“ “	SCHLEGEL; Revue, 1844.
“ <i>var. scotata,</i>	BONAPARTE; Revue et Mag. de Zool., April, 1857.
“ <i>albida,</i>	BLYTH.
“ <i>esclavonicus,</i>	DEGLAND, 1849.
<i>Passer esclavonicus,</i>	BRISSON, 1760.
<i>Emberiza Bonapartii,</i>	BARTHELEMY.
<i>Bruant à couronne lactée,</i>	OF THE FRENCH.
<i>Fichtenammer,</i>	OF THE GERMANS.

Specific Characters.—Rump, throat, and cheeks dark russet; top of the head and distal half of the two lateral tail feathers white; the first four primaries of equal length. Length seven inches; carpus to tip three inches and a half; tail three inches and a half; beak from gape half an inch, breadth at base three twentieths of an inch; tarsus four fifths of an inch.

THE Pine Bunting is an inhabitant of Siberia, ranging thence to Turkey, being found occasionally, according to Pallas, on the shores of the Caspian Sea during winter. Temminck says it is found during the winter in Hungary and Bohemia, and accidentally in Austria and the Illyrian Provinces. Its real home is in the north and west of Asia, its occurrence in eastern Europe being considered accidental by most of our modern ornithologists. It extends to Northern China.

Count Mühle says that he has often seen the female and young in Roumelia in the early autumn. Naumann ("Naturgeschichte der Vogel Deutschlands") says the Pine Bunting is found in Siberia, where, from the Ural Mountains to the River Lena it is very common. "It also comes into the southern provinces of European Russia, into Turkey in winter, and, rarely, into Bohemia, but is never found in the middle or north of Germany. It loves rocky places, but not the mountains themselves, frequenting more the valleys between them. There it must be sought for near the water, on the banks of brooks, rivers, and lakes, where it lives among the sedges and low bushes. It derives its name from the pine woods of Siberia. It remains only a short time in the woods, like the Reed Bunting in our timber woods."

Salvadori ("Fauna d'Italia") writes:—"This bird sometimes descends in Italy during the autumnal passage, but I do not know that it has ever been met with lower than the western parts. The only persons who mention it in the Italian lists are Balsamo-Grivelli; Perini, who in the course of many years had two specimens taken in the Veronese; Brambilla, who says that it is very rare; Pavese, and I myself, who have recorded an individual seen by me in the collection of Signor de Negri, in Geneva, which was taken in the neighbourhood of Savona. In the country about Bergamo it is captured more frequently than anywhere else in Italy. I found one, taken alive with nets, which is now preserved in the collection of Count Camozzi, of Bergamo; another in that of Signor Seminati, of Caprino, in the neighbourhood of which place it was taken; a third, also killed in the neighbourhood of Bergamo, is preserved in the museum of Turin."

I quote the following from the "Siberische Reise" of Dr. Von Schrenck:—"The known varieties of this bird, in relation to the white on the top of the head and the white spot on the neck, as well as with respect to the stronger or weaker reddish brown spots on the white under parts, is very apparent in some Amoor specimens now lying before us. In other respects they agree with the well-known descriptions of Pallas, as well as West Siberian specimens in our museum. It is worthy of remark that *E. pithyornus* comes into

the lower Amoor land much earlier than it does to the Stanowoj Mountains. In the year 1844 it did not appear in the latter, according to Middendorff's observation, until the 10th. of May. It was met with in the spring of 1855 at the posts of Mariniski as early as the 11th. (23rd.) of April,—thus a full month earlier. Herr Maximowicz observed on the same day three individuals on the banks of the Amoor. Two which he killed were males, being in advance of the females, which, according to Pallas, arrive later. On the 2nd. (14th.) of May they had already paired at Dshai, not far from the Mariniski post. From the Upper Amoor we received specimens from Herr Maack from the Lower Schilka on the 10th. (22nd.) and 19th. (31st.) of May."

The Pine Bunting is a cheerful lively bird, with a note similar to the Reed Bunting, according to Pallas. In its habits it resembles the Reed Bunting. It feeds on insects, and seeds of some of the mountain plants, and probably also on those of the reed and other water plants; in winter on oats, millet, etc.

The male has the top of the head white, more or less spotted with brown, bordered with black, which is also the colour of the forehead; a band extending from the base of the beak beneath the eyes, a demi-collar round the front of the neck, the centre of the abdomen, the distal half of each lateral tail feather, and under wing and tail coverts, white. Scapularies and upper wing coverts chesnut brown, with longitudinal patches of black; rump russet; tail above dark brown. Primaries dark brown, edged externally with white; tertials dark brown, deeply bordered with russet; cheeks and throat deep chesnut; crop and flanks mottled with same colour of a lighter tint; wings and tail below brown; beak brown above, yellowish beneath; tarsi yellow; iris brown.

In the female, according to Pallas, the back is "the colour of a Sparrow, with the rump rusty; tail long, slightly forked, the external feathers having each a white wedge-shaped spot descending from their apices." These spots or markings extend from the apex to nearly half the length of the tail, and are common to most of the Buntings. The female also differs from the male in having no rusty about the throat and cheeks, and the head is simply spotted brown like the back. The throat is white; the breast slightly rusty, spotted with brown; the under parts white; wings like the male. When young in the autumn the female resembles the young male, which has "the throat and upper breast whitish, mottled with rufous, with a few small dark brown markings on the upper edge of the chest."—(Dresser.)

My figure is from a specimen kindly sent me by Mr. Gould. The

egg is from my own collection: it was taken in Siberia, and was sent to me by M. Verreaux, through Mr. Dresser.

It has also been figured by S. G. Gmelin, Nov. Comm. Acad. Pet., pl. 23, fig. 3; Lepechin, Ibid, pl. 25, fig. 2; Gould, B. of E., pl. 104; Bonaparte, in Revue de Zoologie, for April, 1857, (young male;) Jaubert and Barthelemy la Pommeraye, in the Richesses Ornithologiques, male and female; Dresser, Birds of Europe, male and female. I am, however, sorry to see that Mr. Dresser has, upon the slightest possible grounds, altered a name which has been in constant use for nearly a hundred years. It appears that S. G. Gmelin gave the name of *leucocephala* to this bird (in the paper above quoted) two years before Pallas assigned to it that of "*pithyornus*." Lamarck, in his note in the French edition of Pallas's "Voyages de l'Empire de Russie," vol. viii., p. 60, refers to this notice of S. G. Gmelin, but he gives precedence to the diagnosis of J. F. Gmelin, in his edition of the Natural System, i., p. 875. Pallas, who was travelling about the remote parts of Russia, knew nothing of S. G. Gmelin's paper, and therefore his name of *pithyornus*, which has been used ever since, ought not to be displaced.



GRANIVORÆ.

Family FRINGILLIDÆ. (Bonaparte.)

Genus EMBERIZA. (Linnæus.)

CRETZSCHMAER'S BUNTING.

Emberiza cæsia.

<i>Emberiza cæsia,</i>	CRETZSCHMAER; in Rüppell's Atlas, (Vögel,) pl. 10, B.
“ “	NAUMANN; Vög., pl. 381.
“ “	GOULD; B. of E., pl. 181.
“ “	TEMMINCK, 1835.
“ “	KEYSERLING ET BLASIUS; Die Wirbelt., 1840.
“ “	SCHINZ; Europ. Faun., 1840.
“ “	SCHLEGEL; Revue, 1844. DEGLAND, 1849.
“ <i>hortulanus,</i>	BLASIUS; in Lit.
<i>Fringillaria cæsia,</i>	BONAPARTE; Consp. Av. Eur., 1850.
“ “	GRAY; Hand List, 7719.
<i>Bruant cendrillard,</i>	OF THE FRENCH.
<i>Grauköpfiger Ammer,</i>	OF THE GERMANS.

Specific Characters.—Beak brown above, reddish below; rump russet grey; head, nape, and crop slate grey. First three primaries of nearly equal length, and considerably longer than the fourth. Primaries fringed on their outer web with russet grey. Length five inches and three quarters; carpus to tip three inches and three tenths; beak two fifths of an inch; tail three inches; tarsus seven tenths of an inch.

CRETZSCHMAER's Bunting, so called from the name of its first artist in Rüppell's Atlas of the birds observed in the North African journey of that distinguished naturalist, is found in the south of Europe, and is a regular summer visitant into Greece, appearing there, according to Count Mühle, early in April, and leaving in August. Its principal

home is in Syria, Nubia, and Egypt. Temminck suggests that it would probably be found more common in the south of Europe, but that its similarity to *E. cia* causes it to be frequently mistaken for that bird. Its capture near Vienna, in 1827, is also recorded by this naturalist, and M. Roux states that it is found in Provence, in company with *E. cia*. It has also been several times killed in the neighbourhood of Marseilles, as recorded by Degland, and Messrs. Jaubert and Barthelemy de la Pommeraye, in their "Richesses Ornithologiques."

Count Mühle says that it is the most common Bunting in Greece. "After its arrival in April, it is found in flocks among the wild and rocky hills of the country, in company with *S. stapazina*, *Surnia noctua*, and *Turdus cyaneus*. It is seldom found in fields or among bushes. It hops among the rocks with great agility, and its song is much more refined than that of the Ortolan. This bird (the Ortolan) first appears plentifully when *E. caesia* has been gone some time, and is never found in the same localities, preferring bushy fields." Its European localities are strictly southern.

"*E. caesia* builds its nest like that of the Yellowhammer, but smaller, behind blocks of stone in a sage plant, off the ground. It lays four to six eggs, which are grey blue, sprinkled with liver-coloured spots. It feeds its young with ground beetles and the caterpillars which it finds among the flowers of the sage."

Of this bird in Palestine Mr. Tristram remarks, (Ibis, vol. i, p. 34):—"One of the most common birds of the more fertile districts of Palestine. Perched on the topmost bough of a shrub or tree, it continues its monotonous song through the day, and is to be seen on almost every bush. In its habits and actions it is very different from its Algerian congener, *Emberiza saharae*, which it so nearly resembles in form and plumage, avoiding buildings, and not as far as I am aware, perching on stones or walls. Its nest is placed near the ground, in a low bush."

As there is a considerable difference in the above two descriptions, I wrote to Mr. Tristram, who obligingly forwarded me the following explanation:—"I can only account for the discrepancy in the two histories, by the difference in the time of year. I was only in the Morea in winter, and in the north of Greece late in the spring, and I did not observe *E. caesia*, so far as I recollect; but neither did I notice it in Palestine in the corn-fields, where we saw the Ortolan consorting with the Common Bunting and the Larks, but in the hill country of Judæa. It abounds in the olive-clad valleys and ravines to the west of Jerusalem, and I was struck by its habit of always

perching on the bushes and shrubs, both on the uncultivated hills and about gardens. Probably when Count Mühle saw them they had not paired; when I fell in with them they were building. *E. caesia* is, I should say, the commonest Bunting in Palestine."

Professor Blasius, of Brunswick, in a private letter to me places *E. caesia* as a variety of *E. hortulanus*, but I think it entitled to specific rank, although closely allied.

The adult male in breeding plumage has the top of the head and a broad collar round the neck bluish grey; all the upper parts from the nape varied with dark brown and russet; throat, chest, and abdomen russet; primaries and tail feathers dark brown, bordered with russet; two outer tail feathers with a large white patch on the inner web of their distal extremities; beak, tarsi and feet reddish brown.

The female has, according to Degland, all the upper parts varied with brown and russet, having a strong resemblance to the female Ortolan in breeding attire; the inferior parts and under tail coverts russet, with brown striæ on the crop and chest.

Temminck says that the male and female in autumn have the colours less pure, with small striæ on the grey of head and neck; the feathers of the crop bordered with brown, and the russet red of the throat less pure.

My figure and description are taken from a male specimen kindly sent me by Mr. Tristram, marked "Emmaus, Judæa, March 25th., 1858." The egg is from my own collection, it was taken by Dr. Krüper in Greece, and is marked "*Cæsia*, 8, 4, 63." I have three others taken by the same distinguished naturalist. I have also two specimens taken in Bulgaria by Mr. Farman.

It has been figured by Roux, as a variety of the Meadow Bunting, in his Ornith. Prov. Atlas, pl. 112, (male;) by Cretzschmaer, in Rüppell's Atlas, pl. 10, fig. 6, (male in breeding plumage;) by Gould, B. of E., 181, and by Mr. Dresser, B. of E.

The bird which followed next in the first edition, the Striolated Bunting, (*Emberiza striolata*,) has no claim to be admitted into the European lists, as I suggested when I admitted it provisionally on Temminck's authority. The only known instance of its capture in Europe is a solitary one related by Mr. Robson near Constantinople. Herr von Heuglin quite concurs in the step I have taken of excluding this bird from the geographical (the only true) limits of European animal life.

GRANIVORÆ.

*Family FRINGILLIDÆ. (Bonaparte.)*Genus EMBERIZA. (*Linncæus.*)

MEADOW BUNTING.

Emberiza cia.

<i>Emberiza cia,</i>	LINNÆUS; S. N., and AUTHORS.
“ “	NAUMANN; Vög., t. 104, 1 & 2.
“ “	GOULD; B. of E., pl. 179.
“ <i>pratensis,</i>	BRISSON; Ornith., vol. iii., p. 266, 1760.
“ <i>lotharingica,</i>	GMELIN; Syst., 1788.
“ <i>barbata,</i>	SCOPOLI.
<i>Cirlus stultus,</i>	ALDROVANDUS; Ornith., vol. ii., p. 858.
<i>Bruant fou ou de prés,</i>	OF THE FRENCH.
<i>Zipammer,</i>	OF THE GERMANS.
<i>Zigolo Muciatto,</i>	SAVI.
<i>Ortolan de Lorraine,</i>	BUFFON.
<i>Foolish and Lorrain Bunting,</i>	LATHAM.

Specific Characters.—Head grey, longitudinally marked with black; rump russet red; primaries edged on the outside with grey, first and sixth of equal length, and considerably shorter than the second, third, fourth, and fifth, which are nearly of the same length, the third being the longest in the wing. Length six inches and a fifth; carpus to tip three inches and a fifth; beak half an inch; tarsus four fifths of an inch; tail three inches and a fifth.

THE Meadow Bunting is an inhabitant of a great part of the south of Europe, more especially Italy, Spain, and the shores and islands of the Mediterranean. It occurs in the south of Germany, as far as the Rhine. It is stationary in some parts of Provence, and migratory in others: it is also a bird of passage in Lorraine. It is plentiful in



Greece during the winter months, in which season it is mentioned by Mr. Carte as common in the Crimea, and by Lord Lilford ("Ibis," vol. ii., p. 138,) as resident, but not abundant, in Corfu. It does not appear to have been found in the north of Germany; and Temminck says it does not occur in Holland. Dubois informs us that it is occasionally found in Austria and Bavaria, and is very rare in Belgium. It is a bird of passage in Switzerland. It ranges through a great part of Asia—Syria, Arabia, and the Dauria; and is mentioned by Mr. Tristram among the birds of North Africa, ("Ibis," vol. ii., p. 295.) "It is a rare visitor to North-east Africa, according to Von Heuglin, who says of it,—'It keeps together in small flocks, mostly on sterile ground. It is very shy, and flies up before the sportsman with a sharp chirping call-note, but falls again almost immediately behind bushes and pieces of rock, where it knows well how to hide.' Cabanis (Mus. Hein, i., p. 128,) distinguishes as a southern form *Emberiza meridionalis* from the Lebanon. The Meadow Bunting occurs in Algeria, the Lebanon, Asia Minor, the Caucasus, the Himalayas, west and north of Asia, and in the southern and temperate parts of Europe."

Deputy Surgeon-General Stewart writes me,—“The Meadow Bunting was stated by Jerdon to be not rare in the north-west Himalayas. I can answer for its being a very abundant species at Mussoorie (seven thousand feet) at all seasons except the rainy. I have found its nest, which is very like the Yellowhammer's, near the foot of a briar bush, containing four pale blue eggs, slightly veined with smoky.”

Of its habits Naumann has given us the best description, and I am principally indebted to him for the following history:—The Meadow Bunting appears in Central Germany in March and April, and leaves in October or beginning of November, after which a solitary bird only is to be found. In Switzerland it is much rarer than the Cirl Bunting. It likes to live in mountainous places, not, however, in the wild and deserted parts, but among the fertile valleys. Sometimes it seeks out meadows, and is found among the bushes bordering woods, and it especially loves those places which are near cultivated fields and gardens. It also frequents the neighbourhood of water, and lingers about the banks of brooks and ditches, where it sits among the thickest bushes, and is often seen on the ground.

It is a lively restless bird, pecking and fighting with other birds, as well as with the members of its own family. Its motion on the ground is heavy, and it has a quick, wavy, or jerking flight. Its habits altogether are very similar to those of the Yellowhammer.

Its call-note is a short sharp 'zi-zi-zi,' which sometimes sounds like 'zip,' and hence its German name. The song of the male is very similar to that of the Yellowhammer, but shorter and clearer. Bechstein expresses its note as 'zi-zi-zi-zirr-zirr,' others as 'zip-zip-zip-zai-zip-zip-zip-zi.' It is a diligent songster, and often sits upon the top of a rather low tree or bush. When kept in confinement the Meadow Bunting is sometimes heard to sing at night. It is a pleasant bird in a room, and soon becomes very domestic, and may be kept for several years. Bechstein had a pair which he kept for several years. They are very affectionate to each other, and live sociably with different birds in confinement, preferring the Yellowhammer.

The Meadow Bunting feeds upon insects, grass seeds, oats, and millet seeds. It will also eat hemp and poppy seed, and in confinement become quite content and healthy on this food, with the addition of a little bread soaked in milk; as a treat nothing so welcome as ants' eggs or a mealworm.

Naumann further remarks that they breed certainly in Germany, in Austria more frequently, but in Italy plentifully. The nest he describes as like that of the Yellowhammer, and the eggs similar to those of that bird, but they may be readily distinguished from both it and every other Bunting. They are roundish, short, and oval; dirty or greyish white, with many reddish and rust-brown streaks and hairs marked upon them. There are also shorter streaks, which the other Buntings have not. Brehm, in his description of the egg in Bädcker's work upon European eggs, says, "It prefers high meadows, where it is found among the short bushes in the neighbourhood of vineyards. It does not often build on the Rhine. Its nest is placed among the crevices of the artificial fences which surround the mountain vineyards, and generally contains four eggs, which have a grey whitish ground; shewing through it, brown, black, and grey lines, which often form a zone round the middle of the egg. These lines are connected together and form peculiar markings, by which they can be readily distinguished from any of the varieties of the Yellowhammer. Rarely they are marked with points, or round spots placed solitarily. They breed twice. The young birds are similar to those of the Yellowhammer, and, like them, are frequently bred in confinement."

Savi says it is doubtful if they breed in Tuscany, but they do so freely in the ultramontane countries. Their nest, which is placed in low bushes, is made of moss externally, and with root filaments and wool internally. Eggs four or five, with irregular zigzag lines and spots of black or dark violet-colour.

Salvadori ("Fauna d'Italia") says of this bird:—"This bird is rather common during the autumnal passage, and stragglers remain with us till the spring. Then the greater part re-pass the Alps, some remaining to nest on the Apennines and some on the Alps. It occurs rarely in Malta, (Wright.) It is rather scarce in Sardinia, but more common in Sicily. It frequents the hills and the margins of groves. It nests in a depression of the ground at the foot of shrubs. The nest is made of moss and dry stalks externally, horse-hair and wool internally. Eggs, in number four or five, are whitish, with contorted black or blackish brown lines, thicker (according to Bentoni) at the larger end, where they form a sort of interlaced corona."

Count Mühle's description, in his "Grecian Ornithology," of the habits and plumage of *E. cia*, is evidently taken from another species. He himself suggests the *E. fucata* of Pallas, with which his description to a certain extent agrees. He says the bird which he describes as *E. cia* is "neither confiding nor stupid, but shy, and knows how to escape the ambush of the hunter very skilfully. It flies up quickly, and *runs along the goat-paths as quickly as a Lark.*" This certainly is not the habit of the Foolish Bunting. Moreover, he remarks, "the first primary is quite as long as the fifth, and much longer than the sixth;" which measurements are quite different from those of *E. cia*, as will be seen by reference to my specific diagnosis of that bird.

Naumann concludes his account of the Meadow Bunting thus:—"The Zipammer, from its confiding nature, is easily shot. They may be drawn in flocks by the Yellowhammer, as a decoy, and thus be captured in great numbers, so that in France they have received the name of Fool. They are very good eating; they rejoice us with their song, destroy pernicious insects, and do no damage."

The adult male in its breeding plumage has the head and neck bluish grey with two black bands along the sides of the vertex, and two other narrower bands of the same colour, one of which passes through the line of the eye, and the other forming a moustache; these lines unite in the parotid region. The upper parts are bright russet, varied by longitudinal black striæ; rump chesnut red; the throat is white; neck and chest delicate bluish grey; the rest of the under parts are russet red, brighter on the sides of the chest and flanks. Wings marked with two narrow whitish bands; wing coverts colour of the back; primaries blackish, bordered with russet; tail black, with the middle feathers bordered with russet, and the two most external marked with a large white patch on the internal webs. Beak blackish above, grey below; feet and iris brown.

The female has the head, nape of the neck, and body varied with

russet and black; rump and under tail coverts bright russet; inferior parts russet red, with the throat whitish; front of the neck and chest shaded with dull grey, and spotted with brown; flanks of a deeper russet, and more or less spotted with russet brown.

The young before the first moult differ considerably from the adult. Top of the head and nape grey, with a black streak in the middle of each feather; upper parts of the body and wings varied like the female, but of a more grey russet; under tail coverts russet, with longitudinal spots of black; throat, front and sides of neck, and top of the chest grey, marked with black spots; the rest of chest and abdomen white, lightly washed with russet.—(Degland.)

My figure of this bird is from a specimen sent me by Mr. Tristram, marked "Ksour, Jan. 28th., 1857," and is therefore in winter plumage. The egg is in my own collection, and was taken in Spain. It was sent to me by Moeschler.

The bird has also been figured by Buffon, pl. enl. 3, fig. 2, female or young under the name of *Bruant de prés de France*, and 511, fig. 1, male in breeding plumage, under the name of *L'Ortolan de Lorraine*; Naumann, *Naturg. Neue Ausg.*, pl. 104, figs. 1 and 2; Vieillot, *Faun. France*, p. 24, figs. 2 and 3; Roux, *Ornith. Prov.*, pl. 111 and 112, male and female, but the figure marked a variety in pl. 112 is a male of *E. casia*; Bouteille, *Ornith. du Dauph.*, pl. 32, fig. 6; Gould, *B. of E.*, pl. 179. Dresser, *Birds of Europe*.



RUSTIC BUNTING.

GRANIVORÆ.

Family FRINGILLIDÆ. (*Bonaparte.*)Genus EMBERIZA. (*Linnæus.*)

RUSTIC BUNTING.

Emberiza rustica.

<i>Emberiza rustica,</i>	PALLAS; Voy., vol. iii., p. 698, 1776, et Zoogr., t. 47, 2.
“ “	NAUMANN; Vög., t. 382, 1 & 2.
“ “	GOULD; B. of E., pl. 177.
“ “	LATHAM; Ind., vol. i., p. 413.
“ “	TEMMINCK, 1820. BONAPARTE.
“ “	SCHINZ. SCHLEGEL. DEGLAND.
“ <i>lesbia,</i>	CALVI; Cat. d'Ornith. di Geneva, p. 46.
“ “	SAVI; Ornith. Tosc., vol. iii., p. 223.
“ <i>borealis,</i>	ZETTERSTEDT; Resa i Lappm., vol. i., p. 107.
<i>Hypocentor rusticus,</i>	CABANIS.
<i>Bruant rustique,</i>	OF THE FRENCH.
<i>Feldammer,</i>	OF THE GERMANS.
<i>Zigolo di Mitilene,</i>	SAVI.
<i>Le Mitilene de Provence,</i>	BUFFON.

Specific Characters.—Region of the rump russet; primaries bordered with russet, the first longer or as long as the third, the fourth shorter than the third; a large elongated white spot on the two external tail feathers; beak straight, awl-shaped, and slightly elevated at the point. Length nearly five inches and two fifths.—DEGLAND.

THERE has been some confusion among the synonymes of this bird. Bonaparte has made three species, namely,—*E. rustica*, Pallas, *E. lesbia*, Gmelin, and *E. provincialis*, Gmelin. Schlegel makes only two of the three, namely—*E. rustica* and *E. fucata*, including among the

synonymes of the latter, both *E. lesbia* and *E. provincialis*, and in a note, page 83, he remarks,—“This pretty species differs from *E. rustica*, by the beak, which is more curved, and the feet, which are more robust; the beak of *E. rustica* is straight and awl-shaped, absolutely like that of *E. pusilla*. In winter, and when they are young, *E. fucata* and *E. rustica* resemble each other very much in the plumage.” Gould figures *E. lesbia* and *E. rustica*. Temminck describes *E. rustica*, but he also introduces *E. lesbia* as the *Mitilene de Provence* of Buffon, and *E. provincialis* as the *Bruant Gavoué* of Buffon. Degland follows Schlegel.

It appears that amidst all this confusion there are two species as described by Schlegel, namely, *E. rustica* and *E. fucata*, but there is really no authority for the introduction of the latter bird into the European list. To clear up the matter, I placed myself in communication with the best ornithologists in Europe, and I will here insert at length a letter with which I have been kindly favoured by Professor Blasius, of Brunswick, whose great knowledge of European birds gives a high value to his opinion upon the subject.

“Brunswick, Jan. 12th., 1861.

“Sir,—It seems to me that confusion among the species of the genus *Emberiza* is greater than in any other family of Passerines. The distinct species which are known to me as European, are as follows:—

1.—*Emberiza striolata*, Lichtenstein. In Africa, accidentally in Spain. One individual, from the south of France, is in the collection at Vienna.

2.—*E. miliaria*, Europe, *E. caspia*, Menetries. From the original types at St. Petersburg.

3.—*E. melanocephala*, Scopoli. Southern Europe. ♀ *E. granitivora*, Menetries. From the original type at St. Petersburg. ♀ *Euspiza dolychonica*, Bonaparte. From the original drawing of Bonaparte. N.B.—*E. icterina*, Eversmann. Asia. Bonaparte gives this as European without adducing any proof.

4.—*E. aureola*, Pallas. North of Europe—North of Russia.

5.—*E. citrinella*, Linnæus. Europe.

6.—*E. cirrus*, Linnæus. South of Europe.

7.—*E. hortulanus*, Linnæus. Europe. (b,) Southern Russia *E. cæsia*, Cretzschmaer.

8.—*E. chrysophrys*, Pallas. Northern Asia. Accidentally at Lisle.

9.—*E. cia*, Linnæus. South of Europe. (b,) Eastern Russia *E. cioides*, Brandt; *E. ciopsis*, Bonaparte. N.B.—Bonaparte gives this variety of *E. cia* as European, without producing any proof.

10.—*E. rustica*, Pallas. North of Russia, and Boreal Asia. *E. borealis*, Zetterstedt; *E. lesbia*, Calvi and Savi; *Mytilene de Provence*, Buffon, pl. enl.

11.—*E. pusilla*, Pallas. Boreal Russia and Asia.

12.—*E. pityornus*, Pallas. Asia. Accidentally in East of Europe—Greece.

13.—*E. schæniculus*, Linnæus. Europe. *E. pallasii*, Cabanis, original type; *E. intermedia*, Michahelles; *E. provincialis*, Gmelin, Bonaparte; *Gavoué de Provence*, Buffon, pl. enl. (b.) *E. pyrrhuloides*, Pallas. South of Europe. *E. palustris*, Savi.

The two species, *E. rustica*, Pallas, and *E. pusilla*, Pallas, are perfectly distinct and unmistakeable. They both live and nest in the forests of Northern Russia, for instance, in the neighbourhood of Archangel. *E. rustica* is also found in Lapland. There are correct figures of the two species in the Appendix to Naumann, 'Vogel Deutschlands,' vol. xiii, pl. 388. These figures were taken from individuals which I killed myself in the north of Russia, in the neighbourhood of Nidjing-Wiliki; the two species have also been taken in the Island of Heligoland, and in the middle of Germany.

It is very difficult to interpret correctly Buffon's figures pl. enl. 656, figs. 1 and 2. *Le Gavoué de Provence*, pl. enl. 656, fig. 1, has the beak, and is nearly of the same colour as *E. schæniculus* var. *intermedia*, Michahelles; but the figure is the type of *E. provincialis*, Gmelin, and is also the *E. durrazzi*, Bonaparte, that is to say *E. schæniculus*, Linnæus. I think that is all that can be said of this question, nearly lost to European ornithology.

Le Mitilene de Provence is perhaps, and will probably be (*est peut etre et elle sera probablement*) an imperfect representation of *E. rustica*, Pall. ♀ (Buffon, pl. enl. 656, fig. 2.) The form and contour of the beak, and the colour of the plumage, are characteristic of *E. rustica*; but Temminck's description, Man. d'Orn., iii, p. 235, is perhaps a phantom of *E. fucata*, Pallas. This is the reason why *E. fucata* has been considered a European species, but it is a very uncertain supposition, and a presumption made upon insufficient data. I think it possible that Temminck wrote his description of *E. lesbia*, Man., i, p. 317, from Buffon's figure.

The two species, *E. rustica* and *pusilla*, Pallas, live regularly in the north of Russia, and have been taken many times in Central Europe; but *E. fucata*, Pallas, has never been taken with certainty in Europe.

Accept the assurance, etc., etc.,

C. R. Bree, Esq., M.D.

J. H. BLASIUS."

I think it will be allowed that the above letter, from so good an authority, clears up much of the confusion which has been occasioned in the natural history of the European Buntings, by mistaking slight differences of plumage for specific distinctions.

From Dr. Schlegel, of Leyden, I have also received a long letter, from which I make the following extract:—"The question of the synonymes of the Asiatic *Emberiza* killed in Europe is a very difficult one. I think it is almost impossible to state which species are meant by Buffon, but I believe that all the Asiatic *Emberizæ* caught in Southern Europe belong either to *rustica* or *pusilla*, two species breeding as you know in Northern Russia, and visiting in small numbers the east of Europe.

Emberiza fucata I believe now has never yet been observed in Europe: it is a species of Eastern Siberia and Japan, and very well characterized by its long Lark-like claws. I am also quite sure that the female and young of *E. schæniculus* have often been confounded with one or the other of those species, although easily distinguished by its longer tail."

The Rustic Bunting is, as has been stated in the above letter, an inhabitant of Northern Russia. It is mentioned by Middendorff as occurring in Siberia, and Temminck states that it has been observed in the Crimea. It has also been taken accidentally near Marseilles, one individual having been captured there alive, and kept in a cage for two years, by M. Barthelemy, the curator of the museum of natural history in that town. This gentleman, as quoted by M. Crespon, informs us that it is in its disposition lively and gay, that its cry resembles that of its congeners, 'zir-zir,' and that its song, which it kept up in 1838 from April to the end of October, had some resemblance to that of the *Fauvette à tete noire*. Its plumage became rather paler at the autumn moult. It was fed upon millet and hemp seed.

The Rustic Bunting is also said to have been taken once in that fertile field for rarities, Brighton, (see "Ibis," 1869.) The details, however, are not satisfactory.

In Bâdeker's work I find the following notice:—"It is a north-dwelling bird, which comes plentifully into Siberia, and rarely into Lapland, and builds in bushes. Its nest is similar to that of the Reed Bunting. It lays five eggs, which are somewhat smaller than those of the Reed Bunting. The ground colour is brownish grey, with violet grey spots, veined, and streaked, and clouded with chesnut brown."

Dr. Von Schrenck, in his "Vogel des Amur Landes," writes of

this bird:—"In comparing the specimens from the Amoor with the many descriptions and representations which we have of the same, I have nothing further to remark than that the white—or in the females and young yellowish—spot on the neck is missing in Gould's representation, while it is shown in that of Middendorff. Also in the latter, besides the spots on the neck, the streaks behind the eye and throat are yellowish, and the black on the crown of the head is more or less edged with yellowish. This is in the spring partly rubbed off. In all my specimens the white or yellowish throat is bordered on each side with a more or less broken row of black spots, as stated to be by Pallas and the 'Fauna Japonica.' In Gould's figure, however, it is wanting. In recently-shot birds the iris was in October and September dark brown; the beak yellowish on the ridge, and grey brown at the point; the feet flesh-coloured; claws grey. In April the iris is of a yellowish brown; beak greyish yellow—on the upper jaw brown; feet flesh-coloured.

"This Bunting, which, according to Pallas, occurs in Trans-Baikal in March, but in Kamtschatka not until May, arrives in the Amoor Land the latter half of April. Middendorff has observed it in the Stanowoj Mountains about the 26th. of April. I saw it at the Nicolajii post on the mouth of the Amoor, in the spring of 1855, for the first time on the 23rd. of April. It swarmed in the light pine woods near the banks of the Amoor. In the autumn of 1854, the first flocks on their passage occurred on September 28th., (October 9th.,) in the underwood of a light larch forest on the banks of the stream. I shot, however, a single belated straggler there on the 12th. (24th.) October, after a heavy fall of snow."

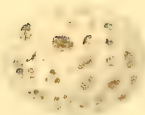
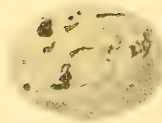
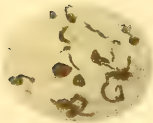
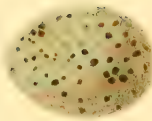
Salvadori ("Fauna d'Italia") writes:—"This bird is found very rarely in Italy during the autumnal migration, and it does not seem that it has ever been observed lower down than Western Italy and Liguria. Calvi is said to have been the first to indicate it under the name of *E. lesbia*. Cantarini mentions a specimen taken in Venetia, in October, 1846. Lanfossi records one individual taken in Brianza in the autumn of 1849. Before this time it was observed in Lombardy, for Malherbe asserts he saw an individual killed in 1839 near Milan. Various individuals have been found in Liguria by Calvi, Durazzo, and De Negri. The latter had one alive, which I saw, and which afterwards came into the possession of the Marquis Giacomo Doria, who communicated to me the following observations made by him about this species:—"Besides the *E. rustica* which I had from De Negri, I have observed other living specimens in Liguria. Almost every year some are taken upon our hills. It does not live

long in confinement, rarely more than two years, the moulting being generally the cause of its death. My birds never became domesticated, and flew about alarmed when the cage was approached. They did not sing, only uttering a solitary call-note like the other Buntings, raising up the feathers of the head during its utterance."

"The male in breeding plumage," according to Degland, whose descriptions are always accurate, "has the top of the head black, with a longitudinal band of russet white upon the median line, which terminates at the occiput in a small white spot; nape red russet; back, scapularies, and upper tail coverts, marked with black spots, which are edged with reddish russet; throat, front of neck, and middle and lower part of abdomen of a pure white; this colour is surrounded on the neck by a blackish streak, and a large collar of red russet, which embraces the upper part of the chest; flanks with long spots of the same colour; under tail coverts white, with some brownish spots; large superciliary band of pure white, which is lost in the white spot on the occiput; wings like the scapularies, and barred with white; tail brown black, with the two median quills bordered with russet, and the two outermost on each side marked in their length with a white band, the smallest on the second."

"In autumn they should have," according to Temminck, "the black feathers of the vertex edged with brown, and the median band of the same tint; on the sides and lower part of the neck is a row of small brown spots only."

The female differs considerably from the male. A young bird, taken by Dr. Dybowski in Siberia, and which is in my own collection, has all the upper parts rusty brown, with dark, nearly black longitudinal markings down the centre of each feather. These markings are feebler on the head, and strongest on the lower wing coverts. The upper wing coverts small, with white tips, which give a double white band across the upper part of the wing. The wing feathers hair brown, with a light fringe of rufous on the outer web. The upper tail coverts rusty. The two upper feathers of the tail rufous, with dark centres shading off to the sides; the outer tail feather white, except an edging of dark brown from the base of the inner web to two thirds its extent, and a similar patch, but narrower, close to the shaft at the end of the feather. In the second feather the brown patch goes the whole length of the feather, while the smaller patch narrows and extends along the outer web, colouring also the shaft of the feather: all the others are of the same dark rich brown as the markings on the back and wing coverts. Throat and side of neck dirty white, finely mottled with dark brown; crop and neck



1. RUSTIC BUNTING.

2. WILLOW BUNTING.

4. LITTLE BUNTING.

mottled with yellowish white and dark brown longitudinal spots; abdomen dirty white; under wing slate-coloured; flanks mingled rufous brown and dirty white brown predominating. Feet yellow; claws and beak horn-colour. Length five inches and a half; wing three inches; tail from vent two inches and a quarter; tarsus half an inch; upper mandible two fifths of an inch.

Pallas's description is the following:—"Head black, with three white bands, one in the middle of the vertex, the two others above the eyes in the form of eyebrows; neck and bend of the wing, ferruginous; upper part of the body of a brown and russet tint; under parts white, with some russet spots on the neck; external tail feather on each side has a longitudinal and oblique white spot towards the tip." "Among the willows in the Dauria; abundant in the month of March."

My figure is taken from Gould. The egg is from Bädeler.

The bird has also been figured by Buffon, pl. enl. 656, fig. 2 male; Roux, Ornith. Prov., pl. 109, fig. 1 young, fig. 2 adult; Naumann, Vogel Deutsch., Appendix, vol. xiii., pl. 388; Gould, Birds of Europe, pl. 177; Nilsson, Faun. Laponica, pl. 131, female.

GRANIVORÆ.

*Family FRINGILLIDÆ. (Bonaparte.)*Genus EMBERIZA. (*Linnæus.*)

WILLOW BUNTING.

Emberiza aureola.

<i>Emberiza aureola,</i>	PALLAS ET AUCT.
“ “	NAUMANN; Vog., t. 381, 1 & 2.
“ “	GOULD; B. of E., pl. 174.
“ <i>sibirica,</i>	LÉPECHIN; Nov. Com. Petrop., 15, p. 483 (a).
“ <i>selysii,</i>	VERANY.
“ <i>dolychonicus,</i>	BONAPARTE.
<i>Euspiza aureola,</i>	BONAPARTE.
<i>Passerina collaris,</i>	VIEILLLOT.
<i>Hypocentor aureola,</i>	CABANIS. BREHM.
<i>Bruant auréole,</i>	OF THE FRENCH.
<i>Kragenammer,</i>	OF THE GERMANS.
<i>Yellow-breasted Bunting,</i>	BREE; first Edition.

Specific Characters.—Occiput, back, and a collar round the lower neck rich chesnut brown; cheeks black; the first two primaries of equal length, and longer than the third; the median wing coverts white; an elongated white mark on the inner web of outermost tail feather. Length five inches; carpus to tip three inches; tail two inches and a half; beak from gape two fifths of an inch; tarsus seven tenths of an inch.

THE Willow Bunting is one of those northern species, especially noticed by Pallas, which have a common habitat along the borders of the two continents of Europe and Asia. It ranges from the Ural Mountains to Kamtschatka, and is recorded by Temminck and Degland as having been seen during its migration in the Crimea. I do not, however, find any notice of its occurrence there by Dr. Carte



MEADOW BUNTING.

or Captains Blakiston and Irby. Latham says it inhabits the pine forests of Katherinesburg, and that it is not met with on the poplars and willows in the islands of the Irtisch and other rivers in Siberia. Middendorff notices its occurrence in his "Siberische Reise," and it ranges from thence to China, Nepal, the Himalayas, and the North-west Provinces of India. Deputy Surgeon-General Stewart shot two specimens beyond Mussoorie, in February, 1861, as he kindly informs me. Brehm, in his description of eggs in Budeker's work, has the following notice:—

"This pretty little Bunting dwells among the bushes which overgrow the low meadow land of Siberia, from the Ural to Kamtschatka. It builds a half-globular nest away from the ground, of sedges, grasses, or rushes, and lines its inside with feathers and hairs. It lays five eggs of a very pretty short oval shape, the groundwork of which is greyish green, with grey and blackish veins, black brown bordered points, having round spots marked upon them."

It is rarely found in Southern Europe in winter. It has been recorded by Canon Tristram in Palestine, and specimens have been captured in Italy and Central France.

Pallas remarks that this bird lives among the luxurious willows of the Irtisch and other Siberian rivers. Dr. L. von Schrenck, in his work upon the Amoor, also notices its inhabiting extensive willow beds; and Dr. Radde, owing to the observance of the same habit, has called it the "Willow Bunting," which, being a much better name than "Yellow-breasted," inasmuch as the Black-headed Bunting has a yellow breast, and we have "Reed," "Meadow," "Pine," and "Corn" Buntings, I have adopted it in this edition. It is also common, according to Middendorff in South-eastern Siberia, all over the Stanowoj Mountains, and on the southern coast as far as the Sea of Ochotsk.

Mr. Dresser has two private communications from Dr. Dybowski and Mr. Meves about the habits of this bird, from which I extract the following. The first-named gentleman says, through Dr. Taczanowski:—In the Dauria the peasants look upon this bird as their best songster. Its song is short, but sweet. They arrive in that country in the middle of May, and build early in June, some of them late in the month. The nest is placed on the ground at the foot of a small bush, often at the base of a tussock of *Spiræa*, amongst high grass, or else in the grass. The nest is constructed of dry bents, and well lined with horse-hair, is about sixty-five millemetres in diameter, and fifty millemetres in depth. They lay four or five, rarely six eggs.

Dr. Meves says he found this Bunting near Wotnesenskio, on the south-west of Lake Onega, far west of where it has hitherto been recorded as a habitat. A few pairs frequented a swamp overgrown with willows, *Iris germanica*, etc. Its song, loud and pleasing, reminded him of that of the Ortolan and Reed Bunting. Dr. Meves found it in several other localities, but *always* in swampy places overgrown with willows and birches. He found a nest July 17th., containing four half-grown young. It was placed on the ground near some small bushes, was neatly constructed of grass stems, which in the interior were somewhat finer, and was lined with a few horse-hairs. It measured in diameter outside two inches and three quarters, inside two inches. The young, which could not fly, tried to hide in the grass, while the parent birds flew about uttering their anxious call-note—‘*zitt, zitt.*’ I am happy to say that Herr Meves did in the journey get the eggs of the Willow Bunting, one of which is in my collection, and figured in this edition. The eggs differ a good deal, both in ground-colour and in markings.

Salvadori (“Fauna d’Italia”) writes:—“Accidental in Italy. One individual, taken alive in Liguria, was kept alive in a cage for two years by Segnor de Negri, and afterwards made part of his collection, now in the Civic Museum in Geneva. Before this another had been taken by Lanfossi, near Brescia, (see Acts of the Eighth Réunion of Scientific Italians held in Geneva, 1846, p. 490.) Also at the same meeting Verany exhibited a drawing of two birds, ♂ and ♀, the former not quite adult, under the name of *E. selysii*, which were specimens of *E. aureola*, taken in Nizzardo.”

Radde says of this bird:—“Of this beautifully-marked Bunting there are now before us males and females of different ages, which, while agreeing in most respects with Gould’s excellent figure, show also the deviations to which Middendorff directs attention. The old males from the Amoorland have an equally full, broad, even at times rather dark neck-band of rusty brown, as Gould figures it, whilst in the young males it is only narrow, and consists of a row of more or less broken drop-shaped spots. At the same time, in the latter also the rusty colour of the upper part of the side, and the black in the circle round the face is less clear and dark than in old specimens. The females vary one from another by more or less rust-colour on the rump, and while this colour in most is intense, as in Gould’s representation, in others it almost entirely disappears, and is replaced by a brownish grey. In one of these the neck also has a cross band, dotted with several rusty-brown spots. The head has, in most of my examples, the same markings as those described by Middendorff,

while the centre crest is lighter, and over the eye on both sides runs a dark brown, sometimes more, sometimes less, intermixed with rust-colour. In all the whitish streak over the eye is as pronounced as Gould represents it. Finally, in both sexes the marking of the second outermost tail feather is very variable, for sometimes there is a narrower white stripe lengthwise on the inner border near the shaft, from the point to a third part of the feather upwards, and sometimes only the very first beginning of this stripe is apparent on the point of the feather, and sometimes indeed it entirely disappears—differences which may often be observed on the two sides of one and the same individual. On some old males of *Emberiza aureola*, recently shot, I found, in June and July, the iris dark brown, the upper part of the beak horn brown, the under part flesh-coloured, the feet of a light brown.

“*Emberiza aureola* is indeed one of the most frequent species of Bunting in the Amoorland, and especially inhabits the leafy woods provided with a thick undergrowth, and also the extensive willow plots on the islands of the Amoor. The last locality it seems particularly to affect, since Pallas also expressly says it is found on the islands covered with willows on the Irtisch and other rivers of Siberia. The earliest specimen in the year I shot on the 19th. (31st.) May, 1855, near the Chaselach mouth of the Lower Amoor. Yet it must arrive much earlier at the mouth of the Amoor (proper), probably even in the beginning of May, on the Stanowoj Mountains, in the river districts of the Nuda, and on the southern coast of the Ochotsk Sea, since Middendorff observed it there from the 10th. of May. On the 3rd. (15th.) of June I flushed a pair from the grass in a leafy wood on the Sea of Kidsi, evidently nesting, of which I shot the male. Later in June and July, I have often observed and killed *Emberiza aureola*, in the willow bushes of the islands on the Amoor; thus at Kidsi, Dshai, at the Ussuri mouth, etc., etc. From the Upper Amoor, Herr Maack has brought with him several specimens of the date of 25th. and 26th. May (6th. and 7th. June) from the neighbourhood of Albasin and of the mouth of the Oldoi.”

The male has the top of the head, back, and a collar round the neck of a rich maroon, and the rump is of the same colour, though more mottled; the wings are brown, shaded with longitudinal patches of grey; the upper tail feathers are brown; cheeks deep black; throat and chest canary yellow, being separated by a band forming a half-circle of the same rich maroon which marks the top of the head; abdomen and flanks light yellow; under tail coverts white; primaries and secondaries the same uniform brown as the tail; tertials darker

brown, edged with rufous; the outermost tail feathers only have a slight white patch on the inner web; beak brown above, yellow below; feet brown.

According to Degland the female has the vertex and crop maroon; nape and mantle dull brown with longitudinal black spots; face blackish grey; the maroon band on the neck very narrow; flanks shaded with olive, and marked with large brown spots; the feathers about the carpus whitish grey.

My figure is taken from a Siberian specimen sent to me by the Rev. H. B. Tristram. It has also been figured by Gould, and Mr. Dresser, B. of E.

The two figures of the egg are—that on the left hand, from one sent to me by Dr. Meves, of Stockholm; that on the right was sent to me by the late Herr Seidensacher, it was taken by Herr Hoffmanseg. Both were found in the neighbourhood of Archangel.



YELLOW-BROWED BUNTING.

GRANIVORÆ.

*Family FRINGILLIDÆ. (Bonaparte.)*Genus EMBERIZA. (*Linnaeus.*)

YELLOW-BROWED BUNTING.

*Emberiza chrysophrys.**Emberiza chrysophrys,*PALLAS; Zoog. Ross. Asiat., pl. 84, fig. 2;
Iter, No. 65.

“ “

SELYS; Faune Belge., pl. 4, fig. 1.

“ “

DEGLAND; Tableau des Ois. du Nord de la
France, et Cat. des Ois. observés en Europe;
(in the Memoirs of the Society of Sciences,
Arts, and Agriculture of Lille, 1831—1845.)
Orn. Eur., p. 249.

“ “

SCHLEGEL; Revue.

“ “

BONAPARTE; Consp. Avium Europearum.

Bruant à sourcils jaunes,

OF THE FRENCH.

Gelbbrauner Ammer,

OF THE GERMANS.

Specific Characters.—A yellow superciliary band stretching beyond the auditory orifices; beak straight. First primary as long as the fourth. Tail very much notched; the most lateral feather nearly white, spotted with brown only on the upper part of the internal web, and the under part of the external web; the following quill edged with white outside. Length about six inches.

THIS bird is an inhabitant of the north-east of Asia, and is occasionally found in those parts of Northern Europe contiguous thereto. Its occurrence in Europe, is, however, accidental. One specimen was shot in the neighbourhood of Lille, in France, and is preserved in the museum of that town, and M. A. de la Fontaine, in his “Faune du Pays de Luxemburg,” says:—“M. Monhimont tells me that in the spring of 1863 he observed two of these Buntings, of which he

killed one, and more recently he has again seen the species. He says that they are not shy birds, but will let any one approach closely, and are easy to kill."

Dr. G. Radde killed many specimens of this species in their autumn passage to the Tarei-Nor, and brought back with him a series of twenty-one, and was therefore well able to amplify the descriptions of Pallas, and add to our knowledge of their habits.

The sexual distinction in plumage is hardly perceptible, for the oldest female in his collection was very similar to the younger males, and differed from the old males more in their feebler form and depth of the black markings on the side of the head than by any other constant markings. Pallas's figure is evidently taken from an old male. Radde had only one old male in his collection, and from this he gives us the following description:—

"The characteristic yellow streak over the eyebrows extends to the edge of the nostril. (Pallas gives a streak round about the eye. In M. de Selys' figure it is rightly drawn.) The feathers of the nostril (hinder edge) as well as the forehead and the whole of the sides of the top of the head are pitch black. From the nostrils this colour extends to the edge of the eye, and it forms a broad and equally black moustache. The same black marking commences at the gape, and extends over the cheeks and the ear, and approaches the black on the hinder part of the head, from which it is, however, divided by the yellow stripe above the eye. On the middle of the top of the head, and on the cheeks, and particularly behind the ear, are a few either entire or partly white feathers. On the top of the head particularly the feathers are white on their inner web and a clear black on the outer. The black marking from the base of the under mandible to the aural region is bordered with white, which becomes on the side of the neck a slight grey brown. From each angle of the lower jaw there extends sideways along the throat to the breast, a narrow black band, which loses itself in the shaft spots of the feathers across the breast, thus forming a triangular space which is white, here and there dotted slightly with black. The feathers of the under parts of the body have a white ground, with many blackish shaft spots, often fading into a smoky brown; those on the breast are larger, and closer together; on the belly they are narrower and longer, and farther apart, ceasing altogether in the white under tail coverts. The feathers on the sides of the breast, as well as those of the shoulder, are reddish grey brown. The whole feathers of the back have the same ground-colour, only darker, which on the middle of the back has a reddish tinge. The shaft spots (longitudinal markings)

are twice or three times as large on the middle of the back, and blackish in colour: these marks disappear gradually, and altogether on the rump. The upper tail coverts rusty red. The upper tail feathers uniform brownish grey. In my old male the back is rather less red than in Pallas's feather. The same with the wings."

The wings brownish black, with, on the outer web, clear narrow yellowish grey edges: the three first of equal length, fourth a little shorter; end of fifth nearer to point of tail than end of sixth to end of fifth. Upper wing coverts bordered with greyish red or dull white, particularly on the outer edge; the black middle coverts are also white on their outer edge; lesser wing coverts yellowish grey, like the ground colour of the feathers of the shoulders. Under wing coverts clear white. Wing lining grey, lighter on the inner webs, towards the shafts darker. First and second tail feathers distinguished by the well-known white marking; on the outermost this extends to over two thirds of the whole length, reckoned from the tip; in the second this marking ends with the lower third of the feather, and does not extend to the outer edge; the tail underneath is dull black, and above brownish.

The plumage of the old female varies from the old male in the following points. The white of the crown of the head is broader, and the feathers about it often tend to brownish; the middle of the cheeks brownish grey instead of black, so that the black is only observed as a bordering to the cheek markings. The plumage of the back in the old females is of an intense reddish rusty brown, more so than in the male; the same with the rump and upper tail coverts. The longitudinal marks on the under side of the body become on the breast and flanks broader and more brown.

In the first year's plumage the colours are alike in both sexes. The eye stripe has more breadth, behind especially, and goes more forward to the nostrils, and almost unites itself at the eyebrow with the same marking on the other side. The yellow is only a sprinkling in the male on the fore part of the central white band on the top of the head. The cheek stripe from the angle of the mouth is brown, lighter in the middle, and gradually becomes imperceptible, and is lighter in the female than in the male. The white ear spot is less observed than in the old birds. The central white band on the top of the head is broader in the young birds, but strongly dotted with black, and on the sides black and brown mixed. In the upper parts the brown of the feathers, as well as the loam yellow of the edges make the plumage very observable. The red brown borderings of the shoulder feathers, and the rusty yellow

of the primaries and secondaries, are broader. Below the white of the breast and chin is sprinkled with yellowish. The longitudinal spots are black, more or less broad. Those on the throat are divided and forked: on the yellowish brown flank, however, arrow-shaped spots appear. The white of the second tail feather is at the end broader on the inner edge than in the old birds, and the third feather has at the end on the inner side near the shaft a white wedge-formed spot; on the white under tail coverts are greyish black spots. On the recently shot bird the upper beak is of a deep horn grey, the base to near the nostrils reddish and lighter; the lower beak at the base a dull white, almost grey. Feet and claws dull flesh-colour, the latter near the end horn-grey. Iris brownish.

Total length of old male one hundred and thirty-eight millimetres, old female one hundred and thirty-eight millimetres, young male one hundred and twenty-six millimetres; wing seventy-eight, seventy-three, and seventy-five millimetres respectively; tail, male and female sixty-two, young fifty-six millimetres; beak on ridge ten, ten, and nine millimetres; tarsus fourteen, fourteen, fourteen millimetres; middle toe and claw five, five, and four millimetres.

“On the 13th. (25th.) August, 1856, I saw this Bunting with small flocks in the evening with *E. pusilla*, in the gardens at Kulussutajeffk, on the Tarei-Nor. Its trembling call-note was frequently heard. It was soft and piping, as in the other Buntings. On the 17th. of September, 1859, this species lived not far from the fortress of Tunkinsk, in the neighbourhood called Saktui. I then saw four specimens in the willow bushes.”

Of the propagation and habit of this species I am sorry that I cannot refer to any authentic details.

It has been figured by Pallas; by De Selys, in the *Faune Belge*, (1842,) vol. i., pl. 4, fig. 1; and by Dresser, *Birds of Europe*, male and female.



LITTLE BUNTING.

GRANIVORÆ.

*Family FRINGILLIDÆ. (Bonaparte.)*Genus EMBERIZA. (*Linnæus.*)

LITTLE BUNTING.

Emberiza pusilla.

<i>Emberiza pusilla,</i>	PALLAS; Voy., 1776, Zoog., 42, No. 206.
“ “	NAUMANN; Vog., t. 382, 1 & 2.
“ “	GOULD; B. of Asia, B. of G. B., vol. iii., pl. 25.
“ “	GMELIN; Syst., 1788.
“ “	SCHLEGEL; Revue, 1844.
“ “	DEGLAND; Ornith. Eur., 1849.
“ “	BONAPARTE; Consp. Avium Eur., 1850.
“ <i>lesbia,</i>	BONAPARTE.
<i>Bruant Nain,</i>	OF THE FRENCH.
<i>Zwergammer,</i>	OF THE GERMANS.

Specific Characters.—Occiput, cheeks, and part of throat ferruginous, with two distinct, deep black, irregular bands, extending from the base of the upper mandible over each eye, to the nape, where they turn round, and in some specimens form a more or less complete collar round the neck, mingled with white or fawn-colour; throat more or less white, mingled with the ferruginous colour of the occiput and cheeks; base of the inner web of most external tail feather white, that of the second the same, but only half as wide; first and third primaries of nearly equal length, the second the longest in the wing. Length of male five inches and three tenths; carpus to tip three inches; tail two inches and a half; beak two fifths of an inch; tarsus seven tenths of an inch. Female a little less.

THE Little Bunting is the last of the closely-allied forms which inhabit the northern parts of Russia and Eastern Siberia; and it will also close my list of this interesting genus. It lives and breeds in the neighbourhood of Archangel, and has been taken frequently, according

to Blasius, in Central Europe. The specimen from which Schlegel drew his lengthened description in the *Revue Critique*, was captured in the neighbourhood of Leyden, on the 18th. of November, 1842. It is mentioned by Professor Blasius and Herr Gätke among the birds found frequently in Heligoland. Messrs. Elwes and Buckley include it in the *Birds of Turkey*, ("Ibis," 1870), as a rather rare winter visitor to the Bosphorus. It is said by Pallas to be very common near mountain rivers in the Dauria, and is reported by Mr. R. Swinhoe as occurring in occasional flocks in Amoy (China) during the winter.—("Ibis," vol. ii, p. 61.) It also occurs in India, according to Jerdon, and Deputy Surgeon-General Stewart informs me that he found it once in 1861 in a valley at the foot of the Himalaya, where it had been driven down by the snow from the mountains. He never saw it anywhere else in India. A single specimen is recorded as having occurred at Brighton, in the "Ibis," for 1865, p. 113.

It is hardly necessary to enter into any discussion about the specific identity of this bird, after the very clear and convincing remarks of Professor Blasius, which I published in the notice of *E. rustica*. M. de Selys-Longchamps expressed a doubt, in a letter to Degland, about the identity of Schlegel's specimen with the bird described by Pallas, and referred it rather to the female of *E. fucata*. Upon this Degland remarks:—"Having seen in the Museum of Leyden, the *Emberiza pusilla* of M. Schlegel, I cannot, with my distinguished friend, refer it to *E. fucata*; it has not the same kind of beak. This organ, instead of being convex above, and a little bent, is straight and awl-shaped, pointed and slightly reversed at its tip. Its plumage is decidedly different."

Bonaparte, in his "Conspectus of European Birds," says of this species:—"It is a good species of Siberia, which has been taken accidentally even in Italy; that of Schlegel is the true one, and neither of the two figures in my Italian fauna ought to be referred to it."

Dr. Leopold von Schrenck, in his "Vogel Amurlandes," p. 289, thus writes of this bird:—"The only specimen of this small Bunting which we brought home I shot on the 18th. of September, on the Upper Amoor, a little below the mouth of the Oldoi. It was a female that quite agreed with Pallas's description. In the autumn dress the feathers of the head have rust yellow edges, which make both the black side stripes and rust-coloured middle stripe somewhat indistinct, and only showing in spots. I found a nest of this Bunting in the Lower Amoorland, in a scanty part of the pine forest between the Lake of Kidsi and the sea-coast. It lay on the ground among moor-tussocks, between which was still seen the remains of snow, and

was artlessly made of spines of the larch and pine. The eggs in it, five in number, were exactly the size and form described by Middendorff, (and figured by me,) viz: strongly tapering, 17.5 millemetres long and 14 broad, covered all over on a dirty white ground with many violet brown spots and markings. On the 17th. of June they were not incubated."

M.M. Jaubert and Barthelemy la Pommeraye, in their "Richesses Ornithologiques du Midi de la France," p. 164, have the following remarks about this bird, which has occurred in Provence:—"This pretty little Bunting, which Pallas tells us is originally from Siberia, appears to have the same habits as its congeners, and lives well in confinement on the same seed as other birds. It is, like all the species which occur in climates seldom visited by man, of an excessively familiar disposition. A young male, which we were sufficiently fortunate to capture under singular circumstances, gives a good proof of this. It was towards the end of October, when, with one of our friends, M. Thumin, our attention had just been arrested by the cry of a little bird flying in the air. By the aid of an artificial call, which I had on my lip, I tried to imitate the cry, and had scarcely done so when the bird came and flew against me within reach of my hand. It was enough to recognize it. The astonishment and emotion of the naturalist at this apparition may be imagined. A few steps back enabled us to shoot the poor little bird, and acquire this precious addition to our collection. Its call-note is difficult to describe, and may be represented by the syllable 'tsieu,' 'tsieu,' which the bird repeats at intervals. Its warbling is unknown to us." We are left by M. Jaubert to imagine where he was with his friend M. Thumin in the above narrative. Let us assume somewhere in the South of France!

Salvadori ("Fauna d'Italia") gives us the following information:—"Various individuals are said to have been taken in Liguria. Durazzo ('Uccelli Liguria,' p. 50,) affirms that it nests on the high mountains of Liguria, and that, driven away by the snow, it descends upon the hills where it can be captured. Later on in the catalogue, among the Geneva list, he says it arrives there in December. It is also found in Nizzardo. In the collection of the Count Camozzi I saw an individual which was taken in the neighbourhood of Bergamo. Durazzo mentions another taken in Brescia, and presented to the Milanese Congress by Lanfossi. I do not know if this species may be really referred to the three individuals of which Perini speaks under the name of *E. Durazzi*. Two others, taken in Venetia, are mentioned by Nini. It does not appear probable that to this species

really belong those individuals which Doderlein said were found, though rarely, in Modena *in summer*! Doderlein, however, affirms, trusting to Benoit, that some individuals of this species have been found near Palermo. This requires confirmation."

By the kindness of M. Verreaux, of Paris, I have been favoured with a series of four specimens of this bird, three marked Europe, and one "*Mer d'Ochoytysk*, ♀?" I have figured this last specimen, and the male in breeding plumage. The other two specimens are only distinguished by the less amount of russet on the throat in one, and its absence in the other, which I presume represent the more or less perfect winter plumage.

The male in breeding plumage has the top of the head, cheeks, and throat rich russet red, with a broad black band stretching from the base of the beak over each eye to the occiput, where it joins a collar of cream-colour which passes entirely round the base of the neck. Upper parts of the body dark brown, mingled with light russet, so as to shew a mottled appearance of those colours on the back, with the broad tertials nearly brown black; primaries rich hair brown, with their tips tinged with russet, and the outer web lightly edged with cream-colour; secondaries same colour, edged with a band of russet externally; rump greyish brown. Tail brown, the most external quill nearly all white, the second having a wedge-shaped band of that colour on the base of the broad inner web, the base of the wedge being at the distal end of the feather. Crop and flanks cream-colour, thickly covered with longitudinal marks of black brown; abdomen grey white; under tail coverts cream-colour.

Schlegel describes the beak of a blackish horn-colour, shading off into yellowish upon the edges of the mandibles, and the base of the lower; feet and claws slender, and of a pale yellowish horn-colour; claws pointed, rather bent in, and of a pale blackish horn-colour.

The bird marked by M. Verreaux ♀,? No. 23653, is smaller than the male, but does not differ from it in plumage essentially, except in the absence of russet on the throat, the more uniform greyish white, and the fewer spots of the inferior parts. The colours are altogether less clear.

My figure of the egg is taken from Middendorff.

The bird has been figured in Naumann's Appendix.

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